Abstracts Book

20º Congresso SPNR Diagnóstica e Terapêutica

Blue and Green Neuroradiology:
An innovative, sustainable and value-based approach to our practice

Sociedade Portuguesa de Neurorradiologia Diagnóstica e Terapêutica

ESNR

S.E.N.R Sociedad Española de Neurorradiología

SBNR Sociedade Brasileira de Neurorradiologia Diagnóstica e Terapêutica

Sociedade Portuguesa de Neurorradiologia de Intervenção

SPN Sociedade Portuguesa de Neurociências

CPC Conselho Português para o Cérebro

Região Autónoma da Madeira Governo Regional

Secretaria Regional de Saúde e Proteção Civil

Universidade da Madeira

Madeira Porto Santo

Associação de Promoção da Madeira

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BOAS-VINDAS

Caros Colegas e Amigos

É com especial honra que a Sociedade Portuguesa de Neurorradiologia (SPNR), Diagnóstica e Terapêutica, vos convida a participar na celebração do nosso 20.º Congresso, que terá lugar no Hotel Pestana Casino Park, no Funchal, Madeira, entre os dias 27 e 29 de novembro, aproximadamente vinte anos depois da realização do nosso primeiro congresso, também no Funchal, a 16 e 17 de março de 2001.

Este evento anual representa um momento ímpar, não só de encontro da comunidade científica e académica, num local repleto de oportunidades nomeadamente de contacto com a natureza, com a beleza paisagística e a identidade regional únicas da Madeira, destacando-se a Floresta Laurissilva, classificada como Património Mundial pela UNESCO desde 1999, asssim como a evocação de personalidades naturais da Madeira e de relevo internacional como o Cardeal Dom Tolentino de Mendonça ou a premiada artista plástica Lourdes de Castro.

Para além da reflexão sobre o papel da neuroimagem na proteção do planeta, o congresso abordará outras questões de relevo para as quais contará com a participação de prestigiadas personalidades nacionais e internacionais, tendo como objectivo a valorização de referências da Neurorradiologia Portuguesa. Será uma oportunidade para formação e atualização de conhecimentos em diferentes áreas como a neurorradiologia de intervenção vascular, a intervenção minimamente invasiva do ráquis, técnicas avançadas de diagnóstico, patologia tumoral do SNC, proteção radiológica, neuropediatria, neuroimagem e patologia da cabeça e pescoço, e esclerose múltipla e a importância dos biomarcadores séricos e imagiológicos nas doenças neurodegenerativas.

Com o intuito da oportunidade de trabalho em equipa e de proximidade desenvolveram-se workshops pré-congresso (a 27 de novembro a partir das 13 h), nas áreas de intervenção vascular, intervenção minimamente invasiva do ráquis, neuroanatomia radiologica e esclerose múltipla.

Os jovens especialistas e internos estarão uma vez mais representados no *2nd In-training and Early-career Neuroradiologists Symposium*, uma iniciativa que pretende fomentar a participação das novas gerações, com representação nacional abrangente, promovendo o conhecimento interpares, a troca de experiências, o alinhamento de objetivos e a criação de oportunidades.

Contamos com a sua presença no 20.º Congresso da SPNR 2025.

Vamos celebrar a Neurorradiologia Portuguesa!

Até lá!

Ana Mafalda Reis
Presidente do 20º Congresso Anual da Sociedade Portuguesa de Neurorradiologia Diagnóstica e Terapêutica
Presidente Comissão Organizadora do 20º Congresso Anual da Sociedade Portuguesa de Neurorradiologia Diagnóstica e Terapêutica
Presidente da Sociedade Portuguesa de Neurorradiologia Diagnóstica e Terapêutica

Luísa Biscoito
Vice-Presidente do 20º Congresso Anual da Sociedade Portuguesa de Neurorradiologia Diagnóstica e Terapêutica

Tiago Gil Oliveira
Vice-Presidente do 20º Congresso Anual da Sociedade Portuguesa de Neurorradiologia Diagnóstica e Terapêutica

Mavilde Arantes
Presidente Comissão Científica do 20º Congresso Anual da Sociedade Portuguesa de Neurorradiologia Diagnóstica e Terapêutica
Secretária-geral da Sociedade Portuguesa de Neurorradiologia Diagnóstica e Terapêutica

Catarina Pinto
Presidente do *2nd In-training and Early-career Neuroradiologists Symposium*

WELCOME

Dear Colleagues and Friends,

It is with great honour that the Portuguese Society of Neuroradiology (SPNR), Diagnostic and Therapeutic, invites you to join us in celebrating our 20th Annual Congress, to be held at the Pestana Casino Park Hotel in Funchal, Madeira, from November 27th to 29th — nearly twenty years after our very first congress, also held in Funchal on March 16–17, 2001.

This annual event represents a unique moment, not only for the scientific and academic community to meet, in a place full of opportunities, namely contact with nature, with the scenic beauty and the unique regional identity of Madeira, highlighting the Laurissilva Forest, classified as a World Heritage Site by UNESCO since 1999, as well as the evocation of natural personalities of Madeira and of international relevance such as Cardinal Dom Tolentino de Mendonça or the award-winning plastic artist Lourdes de Castro.

In addition to reflecting on the role of neuroimaging in protecting the planet, the congress will address other important issues for which it will have the participation of prestigious national and international personalities, with the aim of valuing references in Portuguese Neuroradiology. It will be an opportunity for training and updating knowledge in different areas such as vascular interventional neuroradiology, minimally invasive rachis intervention, advanced diagnostic techniques, CNS tumor pathology, radiological protection, neuropediatrics, neuroimaging and head and neck pathology, and multiple sclerosis and the importance of serum and imaging biomarkers in neurodegenerative diseases.

In order to provide the opportunity for teamwork and proximity, pre-congress workshops were held (on November 27 from 1 pm), in the areas of vascular intervention, minimally invasive rachis intervention, radiological neuroanatomy and multiple sclerosis.

Young specialists and residents will once again be represented in the 2nd In-training and Early-career Neuroradiologists Symposium, an initiative designed to encourage the active participation of younger professionals from across the country, promoting peer-to-peer learning, knowledge exchange, shared goals and future opportunities.

We look forward to welcoming you to the 20th SPNR Congress in 2025.

Let us celebrate Portuguese Neuroradiology!

See you there!

Ana Mafalda Reis
Presidente do 20º Congresso Anual da Sociedade Portuguesa de Neurorradiologia Diagnóstica e Terapêutica
Presidente Comissão Organizadora do 20º Congresso Anual da Sociedade Portuguesa de Neurorradiologia Diagnóstica e Terapêutica
Presidente da Sociedade Portuguesa de Neurorradiologia Diagnóstica e Terapêutica

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Secretária-geral da Sociedade Portuguesa de Neurorradiologia Diagnóstica e Terapêutica

Catarina Pinto
Presidente do *2nd In-training and Early-career Neuroradiologists Symposium*

COMISSÕES

Comissão Organizadora

Presidente — Prof. Doutora Ana Mafalda Reis (SPNR)
Vice-Presidente — Dra Luisa Biscoito
Vice-Presidente — Prof Tiago Gil Oliveira
Dra Catarina Pinto (SPNR)
Dr. Rui Armindo (SPNR)
Dra. Graça Sá (SPNR)
Dra. Joana Graça (SPNR)
Dra Ines Prisco (SPNR)
Dr. Joao Pires

Comissão Científica

Presidente — Prof. Doutora Mavilde Arantes (SPNR)
Vice Presidente — Dr. Duarte Veira (SPNR)
Dr. Rui Manaças (SPNR)
Dra. Graça Sá (SPNR)
Dra. Joana Graça (SPNR)
Dra Teresa Nunes (SPNR)
Dra. Carla Conceição (SPNR)
Dr. Rui Armindo (SPNR)
Dra. Catarina Pinto (SPNR)
Dra. Inês Prisco (SPNR)
Dr. David Berhanu (SPNR)

PROGRAMA

SEXTA-FEIRA, 28 novembro 2025

08H00-09H00
COMUNICAÇÕES ORAIS

C01
CHALLENGING THE OVERLAP: DISTINGUISHING ACUTE DISSEMINATED ENCEPHALOMYELITIS FROM MULTIPLE SCLEROSIS — A CLINICAL CASE APPROACH
Inês Maria Monteiro Ribeiro

C02
ALL THE SAME BUT NOT THE SAME: DIAGNOSTIC SPECIFICITY OF JUXTACORTICAL LESIONS IN MULTIPLE SCLEROSIS
Henrique Coimbra Queirós

C03
PEDIATRIC INFLAMMATORY CNS DISORDERS: DIAGNOSTIC INSIGHTS FROM THE 2024 MCDONALD CRITERIA
Sara Rosa

C04
REDEFINING RIS: EARLY MS DIAGNOSIS WITH THE 2024 MCDONALD CRITERIA
Celina Poeta do Couto

C05
LONGITUDINAL EXTENSIVE TRANSVERSE MYELITIS
IT'S NOT ALL NEUROMYELITIS OPTICA
Manuel Tomé

C06
CLINICAL AND IMAGING FEATURES OF A PEDIATRIC MOGAD COHORT:
DOES LESIONS' TOPOGRAPHY PREDICT RECURRENCE?
Gil Duarte Paz

C07
HOW DOES HIPPOCAMPAL VOLUME IN MESIAL TEMPORAL SCLEROSIS AFFECT BRAIN NETWORKS DURING A FUNCTIONAL MRI MEMORY TASK?
Sara Rosa

10H20-11H00
COMUNICAÇÕES ORAIS

C08
FLOATING UPSTREAM: INTRAVENTRICULAR MIGRATION OF INTRAOCULAR SILICONE OIL — A RARE IMAGING PITFALL
Inês Mesquita

C09
VITAMIN A DEFICIENCY–RELATED SKULL HYPEROSTOSIS AND OPTIC CANAL STENOSIS MIMICKING INHERITED RETINAL DYSTROPHY: WHEN NEUROIMAGING CHANGES THE DIAGNOSIS
Nuno Cruz

C10
NON-INVASIVE EVALUATION OF SALIVARY GLANDS USING MR SIALOGRAPHY: THREE CASES WITH DISTINCT IMAGING PATTERNS
Beatriz Pacheco Marques

C11
3D-PRINTED WHITE MATTER TRACTOGRAPHY: NEUROANATOMY EDUCATION
Carolina Chaves

17H00-17H30
COMUNICAÇÕES ORAIS

C12
RADIOLOGICAL FEATURES IN MRI FOR THE PREDICTION OF HIGH-GRADE INTRACRANIAL MENINGIOMAS
Mariana Duarte Gomes

C13
CENTRAL NERVOUS SYSTEM INVOLVEMENT IN MULTIPLE MYELOMA: A RARE CASE OF LEPTOMENINGEAL MYELOMATOSIS
Raquel Falcão de Freitas

C14
EVALUATING THE NECESSITY OF CONTRAST ADMINISTRATION IN THE FOLLOW-UP OF UNTREATED INTRACRANIAL MENINGIOMAS
Cátia Araújo

18H20-19H00
COMUNICAÇÕES ORAIS

C15
SPOT THE SHUNT WITHOUT SEEING IT: INDIRECT IMAGING CLUES FOR DAVFS (DIRECT SIGNS COVERED AS WELL—JUST IN CASE)
Ana Sofia Lopes Coelho

C16
VERTEBRO-VERTEBRAL ARTERIOVENOUS FISTULA SECONDARY TO VERTEBRAL ARTERY DISSECTION AS A RARE CAUSE OF PULSATILE TINNITUS: A CASE REPORT
Vítor Rego

C17
TRAUMATIC VERTEBRAL ARTERY DISSECTION IN A YOUNG ADULT: CLINICAL, RADIOLOGICAL AND THERAPEUTIC INSIGHTS — CASE REPORT AND LITERATURE REVIEW
Lia Freitas

C18
DYNAMIC MRI, DYNAMIC FINDINGS
Vera Vaz Teixeira

C19
THE IMAGING DILEMMA IN AXIAL SPONDYLOARTHRITIS: BALANCING EARLY DIAGNOSIS AND SPECIFICITY — UPDATED EVIDENCE AND PICTORIAL REVIEW FROM A SINGLE-CENTER EXPERIENCE
Gonçalo Madureira

SÁBADO, 29 novembro2025

08H00-09H00
COMUNICAÇÕES ORAIS

C20
CHARCOT-BOUCHARD ANEURYSMS IN THE POSTERIOR CIRCULATION — CASE SERIES AND LITERATURE REVIEW
Maria Ribeiro Gomes

C21
TO TREAT OR NOT TO TREAT? AN INVERSE PROBABILITY WEIGHTING ANALYSIS OF INTRACRANIAL ANEURYSMS WITH INCONCLUSIVE UIATS SCORES
Pedro Simão

C22
FLOW DIVERTER ENDOVASCULAR TECHNIQUE IN INTRACRANIAL ANEURYSMS: INSTITUTIONAL EXPERIENCE AND EVALUATION OF FDSS AND SMART SCALES
Francisco Miguel Rodrigues

C23
EFFICACY AND SAFETY OF MECHANICAL THROMBECTOMY FOR TREATMENT OF DISTAL, MEDIUM MIDDLE CEREBRAL ARTERY OCCLUSIONS: A SINGLE-CENTER RETROSPECTIVE
Raquel Pontes Figueiredo

C24
ENDOVASCULAR TREATMENT OF MIDDLE CEREBRAL ARTERY ANEURYSMS: A SINGLE-CENTER EXPERIENCE
Rodrigo Lindeza

C25
THE VALUE OF CBCT IMMEDIATELY BEFORE AND AFTER ENDOVASCULAR AIS
Catarina Ferreira da Silva

C26
USEFULNESS OF POST-THROMBECTOMY CBCT FOR ANTICIPATING IMMEDIATE COMPLICATIONS: EARLY RESULTS FROM ROUTINE POST-PROCEDURAL IMAGING
Ricardo Alberto

11H00-11H45
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C27
NEUROMELANIN MRI AS A POTENTIAL BIOMARKER OF PRECLINICAL NEURODEGENERATION IN LRRK2 CARRIERS
Joana Freitas

C28
CRITICAL ILLNESS-ASSOCIATED CEREBRAL MICROBLEEDS IN SICKLE CELL DISEASE CRISIS
Beatriz Morais Bento

C29
MRI PATTERNS OF BRAIN ATROPHY IN NEURODEGENERATIVE DISORDERS: A PICTORIAL REVIEW OF SELECTIVE VULNERABILITY
Inês Mesquita

C30
CORTICAL AND DEEP GRAY MATTER INVOLVEMENT IN SPORADIC CREUTZFELDT-JACOB DISEASE: IMAGING PATTERNS AND DIAGNOSTIC CRITERIA
Ana Morim

SEXTA-FEIRA, 28 novembro 2025

08H00-09H00
POSTERS

P01
MARBURG VARIANT OF MULTIPLE SCLEROSIS: WHEN TIME MATTERS THE MOST — A CASE REPORT
Joana Freitas

P02
SOCIAL MEMORY DEFICITS IN MULTIPLE SCLEROSIS: NORMAL-APPEARING WHITE MATTER CORRELATES
Torcato Meira

P03
IATROGENIC DEMYELINATION MIMICKING MULTIPLE SCLEROSIS ASSOCIATED WITH USTEKINUMAB THERAPY: A CASE REPORT
Rosa Couto

P04
FROM MRI SUITES TO WATERWAYS: REVISITING GBCA PROTOCOLS TOWARDS ENVIRONMENTAL HEALTH
Pedro Henrique Pestana Barradas

P05
LOST AND NOT FOUND: TOTAL RESORPTION OF AN AUTOLOGOUS BONE GRAFT IN EARLY INFANCY
Mariana Guimarães Ferreira

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NOT YOUR USUAL TORCULAR STORY: ANTERIOR FETAL DURAL SINUS MALFORMATION WITH SPONTANEOUS RESOLUTION
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THE TALE OF THE DANCING ODONTOID AND THE MYSTERIOUS CARDIORESPIRATORY ARREST
Ana Isabel Caleia

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CAROTID WEB AS AN UNDERRECOGNIZED CAUSE OF ISCHEMIC STROKE IN YOUNG PATIENTS: A CASE REPORT
Beatriz Morais Bento

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COASY PROTEIN-ASSOCIATED NEURODEGENERATION:
EARLY NEUROIMAGING INSIGHTS
Rita de Sousa

P10
A CURIOUS HIDEOUT: SACRAL METASTASIS OF POSTERIOR FOSSA EPENDYMOMA WITHIN A TARLOV CYST
Ana Isabel Pereira

P11
EARLY TRIGEMINAL TRACT INVOLVEMENT IN A CASE OF RHOMBENCEPHALITIS SECONDARY TO LISTERIA MONOCYTOGENES
Raquel Falcão de Freitas

P12
INTRAMEDULLARY SPINAL METASTASIS IN A PATIENT WITH LUNG ADENOCARCINOMA
Raquel Falcão de Freitas

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Mariana Duarte Gomes

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Francisco Miguel Rodrigues

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João Francisco Vale

P18
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P20
THE ROLE OF MYELO-CT IN DIFFERENTIATING INTRAOSSEOUS MENINGEAL CYST FROM OSTEOLYTIC VERTEBRAL LESIONS
Inês Mesquita

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SIMPLIFYING PEDIATRIC CT-DACRYOCYSTOGRAPHY: DIAGNOSTIC PERFORMANCE OF DIRECT OCULAR INSTILLATION OF IODINATED CONTRAST
Sara de Carvalho

P22
FROM SUBJECTIVITY TO PRECISION: VALIDATION OF THE MTA SCALE THROUGH AUTOMATIC VOLUMETRY
Pedro Afonso Morais Peixoto

P23
“FOLLOW THE NERVE”: TIPS, TRICKS, AND TRAPS IN PERINEURAL TUMOR
Sílvia Reigada

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Beatriz Pacheco Marques

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Beatriz Pacheco Marques

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João Pedro Silva Brilhante

P27
LOCALIZED T2/FLAIR SUBCORTICAL HYPOINTENSITY IN FOCAL STATUS EPILEPTICUS WITH NON-KETOTIC HYPERGLYCAEMIA: A CASE REPORT
Inês Vilas-Boas

P28
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IS T1 BRIGHTER THAN THE OTHER?
António Tavares

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P31
RUPTURED ARACHNOID CYSTS IN OLDER ADULTS: A CASE REPORT AND REVIEW
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P32
A CASE OF POSSIBLE RHOMBENCEPHALITIS
— RESTRICTING THE DIFFERENTIAL DIAGNOSIS
António Tavares

SÁBADO, 29 novembro2025

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AND THEIR CLINICAL CORRELATES
Vítor Rego

P34
LABYRINTHITIS: IMAGING PATTERNS, DIAGNOSTIC CHALLENGES, AND THE ROLE OF MRI IN CLINICAL MANAGEMENT
Diogo Vaz Pinto

P35
RHINO-ORBITAL-CEREBRAL MUCORMYCOSIS — THE BLACK FUNGUS
Cátia Araújo

P36
MAPPING THE BRAIN IN TUBEROUS SCLEROSIS: A CASE SERIES REVIEW
Vítor Rego

P37
SKULL BASE FORAMINA: IMAGING FINDINGS AND CLINICAL RELEVANCE
Vítor Encarnação

P38
MRI PATTERNS OF NITROUS OXIDE–RELATED MYELONEUROPATHY: CASE SERIES AND REVIEW
Vítor Encarnação

P39
MIDDLE MENINGEAL ARTERY EMBOLIZATION: CHANGING THE PARADIGM IN CHRONIC SUBDURAL HEMATOMAS
Lia Freitas

P40
SPONTANEOUS INTRACRANIAL HYPOTENSION: CASE REPORT OF CSF- VENOUS FISTULA DIAGNOSIS AND EMBOLIZATION
Manuel Vicente de Oliveira e Castro Vaz Tomé

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IMAGING LESSONS FROM FAHR SYNDROME: WHEN CALCIFICATIONS TELL A STORY
João P. S. Gomes

P42
PETROCLIVAL HYDATID DISEASE MIMICKING CHORDOMA
António Themudo Barata

P43
CEREBRAL BIPOLARIS INFECTION MIMICKING HIGH-GRADE TUMOR IN AN IMMUNOCOMPETENT PATIENT: FIRST IMPORTED CASE REPORTED IN EUROPE
António Themudo Barata

P44
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António Themudo Barata

11H00-11H45
POSTERS

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Gonçalo Madureira

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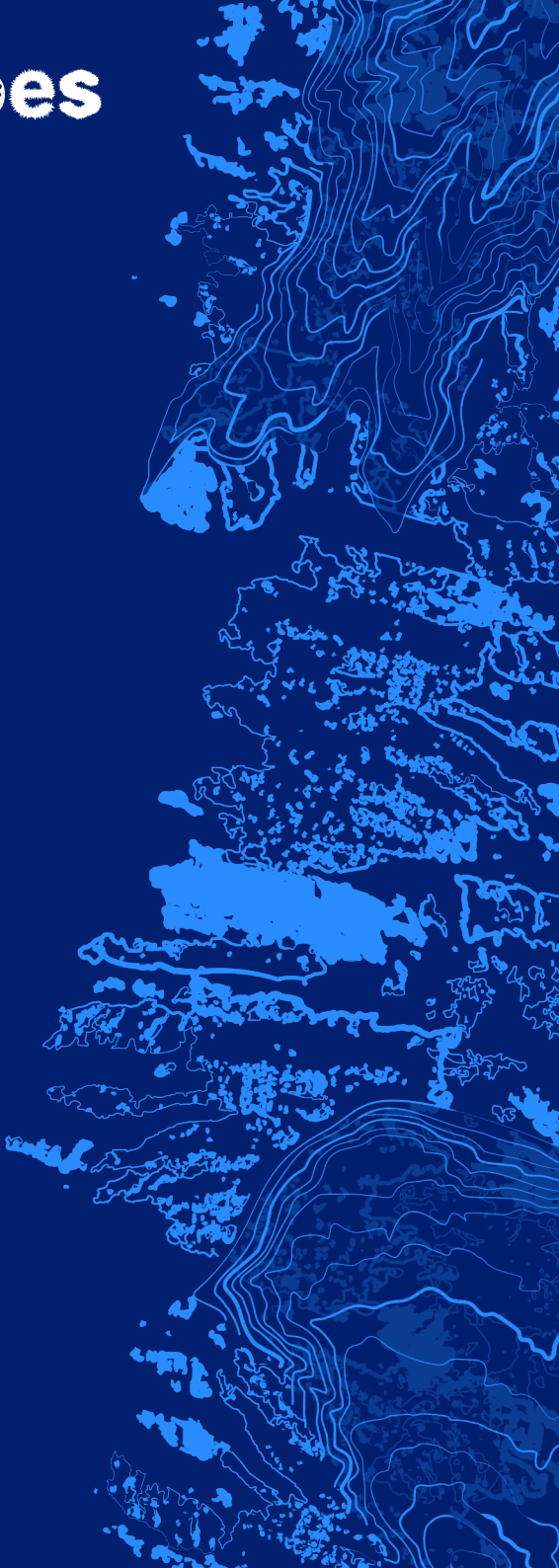
UNMASKING THE MIRAGE: AN ATYPICAL ICA TERMINATION MIMICKING MCA PATHOLOGY
Gonçalo Madureira

P47
ASYMMETRIC BILATERAL COCHLEAR MALFORMATIONS IN A PEDIATRIC PATIENT
Neha Ramniclal

P48
SNIFFING OUT THE CAUSE: ESTHESIONEUROBLASTOMA WITH ECTOPIC ACTH SECRETION
Neha Ramniclal

P49
AXIAL GOUTY ARTHRITIS: CASE REPORT OF AN EXTRALUMINAL L4-L5 LESION IN A PATIENT WITH CHRONIC HYPERURICEMIA
Lourenço Moniz

Comunicações Orais



C01

CHALLENGING THE OVERLAP: DISTINGUISHING ACUTE DISSEMINATED ENCEPHALOMYELITIS FROM MULTIPLE SCLEROSIS — A CLINICAL CASE APPROACH

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Introduction: Multiple sclerosis (MS) and acute disseminated encephalomyelitis (ADEM) are inflammatory demyelinating disorders of the central nervous system. Despite distinct pathophysiological mechanisms, their overlapping clinical and radiological features often complicate accurate diagnosis.

Case Presentation: A 21-year-old woman presented to the emergency department with slurred speech, blurred vision, gait instability, and left hemifacial hypoesthesia. She had recently completed antibiotic treatment for an upper respiratory tract infection. Neurological examination revealed dysmetria, dysarthria, right central facial paresis, and right internuclear ophthalmoplegia. Cerebrospinal fluid (CSF) cytometry revealed normal parameters, including a protein concentration of 41.4 mg/dL, normal glucose levels, and a cell count of 1 cell/mm^3. Head CT revealed discrete hypodense areas in the insular and frontal white matter. A presumptive diagnosis of autoimmune rhombencephalitis was established, and corticosteroid therapy was initiated.

Results: Brain MRI demonstrated multiple lesions in periventricular, infratentorial and juxtacortical regions at different stages—some with contrast enhancement (acute-phase), others with signs of axonal loss (chronic-phase). No spinal cord lesions were identified. CSF analysis revealed an elevated kappa index, increased IgG index, and more than 10 oligoclonal bands.

Discussion: Although the preceding infection aligned with ADEM, imaging revealed lesion patterns consistent with both ADEM and MS. The presence of acute and chronic lesions, absence of CSF pleocytosis or protein elevation, and the presence of immunological markers supported a diagnosis of MS. It is plausible that the infection acted as a trigger for a demyelinating relapse.

Conclusion: This case highlights the diagnostic complexity in distinguishing ADEM from MS and the importance of integrating clinical, radiological, and immunological data.

C02
ALL THE SAME BUT NOT THE SAME: DIAGNOSTIC SPECIFICITY OF JUXTACORTICAL LESIONS IN MULTIPLE SCLEROSIS

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Introduction: Magnetic resonance imaging (MRI) is the principal paraclinical tool for diagnosing multiple sclerosis (MS), a role reinforced in the 2024 McDonald criteria, which now allows diagnosis based solely on MRI findings. Juxtacortical lesions (JCL) are among the most specific topographies, though our clinical experience suggests that some locations (particularly insular and anterior temporal regions) may not be equally specific. This study aimed to assess the diagnostic specificity of these two regions, address a literature gap, and propose a potential exception to their consideration in dissemination in space (DIS) fulfillment.

Methods: We retrospectively analyzed 196 brain MRI scans with a 3D T2-FLAIR sequence. Two readers systematically assessed the presence of insular and anterior temporal JCL, alongside other JCL and typical MS topographies (periventricular, infratentorial, and spinal cord). The chi-square test was applied to compare lesion frequencies between MS and non-MS cohorts.

Results: The sample included 196 adults (mean age 44.9 ± 14.7 years; 63.3% female), of whom 100 (51.0%) were MS patients and 96 (49.0%) were non-MS patients. Insular JCL prevalence was similar between the groups (MS 20.0% vs. non-MS 20.8%; p=0.884), whereas anterior temporal JCL were more frequent in MS (48.0% vs. 20.8%; p=0.003). MS patients exhibited markedly higher lesion frequencies among other JCL sites: frontal (60.4% vs. 9.5%), parietal (28.7% vs. 2.1%), temporal (30.7% vs. 1.1%), and occipital (9.9% vs. 1.1%); and across other typical topographies: periventricular (98.0% vs. 2.1%), infratentorial (60.4% vs. 3.2%), and spinal cord (52.5% vs. 3.2%). All comparisons were significant (p<0.01).

Discussion and Conclusion: The anterior temporal JCL differed among groups, showing a positive trend towards higher categories in MS. However, insular JCL did not differ and showed a negligible association.
Considering our results, we propose a potential exception, whereby insular JCL does not fulfill DIS by default

C03
PEDIATRIC INFLAMMATORY CNS DISORDERS: DIAGNOSTIC INSIGHTS FROM THE 2024 MCDONALD CRITERIA

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Introduction: Inflammatory diseases of the central nervous system (CNS) have distinct clinical and imaging features in the pediatric population and include Multiple Sclerosis (MS), Myelin Oligodendrocyte Glycoprotein Antibody-Associated Disease (MOGAD), and Neuromyelitis Optica Spectrum Disorder (NMOSD). The revised 2024 McDonald criteria describe novel imaging signs specific for the diagnosis of MS. However, systematic evaluation of these new criteria in pediatric patients is missing. Given the importance of an accurate diagnosis to guide management and therapeutic decisions, assessment of the diagnostic accuracy of the novel imaging signs in the 2024 McDonald criteria in a pediatric population is warranted.

Methods: We conducted a retrospective cohort study of all pediatric patients with an inflammatory CNS disorder followed at Hospital Dona Estefânia (2011 — October 2025). Demographic characteristics, risk factors, clinical presentation, laboratory results, and other complementary test results were collected. Imaging findings, particularly the parameters considered in the 2024 McDonald criteria, were assessed. We compared imaging characteristics and predictors across diagnostic groups and determined their diagnostic accuracy.

Results: A total of 37 patients were included, comprising 19 patients with MS, 15 with MOGAD, and 3 with NMOSD. Clinical presentation, imaging features, and follow-up findings will be presented. The application and performance of the 2024 McDonald criteria in this cohort will be detailed, as well as the application of imaging biomarkers in the MOGAD and NMOSD cohorts, to assess its specificity in our pediatric cohort.

Discussion and Conclusion: To our knowledge, this is the first study reporting the application of the imaging findings from the revised 2024 McDonald criteria in a pediatric cohort. Pediatric patients with inflammatory CNS diseases exhibit a distinct phenotype compared to adults. Our findings may provide valuable insights into the diagnostic performance of these criteria and contribute to optimizing diagnostic approaches in the pediatric population.

C04
REDEFINING RIS: EARLY MS DIAGNOSIS WITH THE 2024 MCDONALD CRITERIA

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Introduction: The 2024 revision of the McDonald criteria for the diagnosis of multiple sclerosis (MS) will result in a reclassification of patients previously diagnosed with Radiologically Isolated Syndrome (RIS).
We aimed to determine how many patients previously diagnosed with RIS fulfill the new 2024 diagnostic criteria for MS in our cohort.

Methods: We conducted a retrospective cohort study of patients diagnosed with RIS between 2011 and 2025 at our MS Centre. Demographic, clinical and imaging data were collected and the revised 2024 McDonald criteria were applied to assess conversion to MS.

Results: A total of 50 patients were included. The 2024 McDonald criteria led to a conversion rate from RIS to MS of 66% (n=33). Earlier diagnosis of MS was most often achieved with the presence of dissemination in space (DIS) and either positive oligoclonal bands or dissemination in time (DIT), in the absence of symptoms (70%,n=23).
Cerebrospinal fluid (CSF) analyses were positive in 76% of MS patients and the addition of kappa free light chains increased CSF sensitivity by 6%.
Including the optic nerve as a topography increased the presence of DIS by 6% (n=3).
Detection of specific imaging markers, namely the central vein sign using the Select-6 criteria, was decisive for earlier MS recognition, with 27% of reclassified patients exhibiting this imaging marker (n=9).
The revised criteria shortened the time to diagnosis from an average of 17 to 8 months.
Disease-modifying therapy had been initiated in 52% of reclassified patients (n=17), compared to 6% in the remainder (n=1,p<0.001).

Conclusion: A large proportion of patients previously diagnosed with RIS retrospectively fulfill the new 2024 diagnostic criteria for MS. Importantly, the novel criteria were often met based on imaging alone and required no additional clinical findings, highlighting the crucial role of neuroradiologists in the future of MS diagnosis.

C05
LONGITUDINAL EXTENSIVE TRANSVERSE MYELITIS IT'S NOT ALL NEUROMYELITIS OPTICA

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Pedro Pires
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Introduction: Longitudinally extensive transverse myelopathy (LETM) encompasses spinal cord lesions spanning three or more vertebral segments, posing a broad diagnostic challenge. Clinical presentation includes motor, sensory, and sphincter function impairment. Magnetic Ressonance Imaging (MRI) is essential for its diagnosis. The differential diagnosis include autoimmune, infectious, neoplastic, vascular, and metabolic disorders, and its early recognition is crucial to achieve an accurate diagnosis and prompt initiation of targeted therapy.

Methods: The authors reviewed their hospital's clinical archive to identify patients with LETM, selecting representative images across different etiologies. A complementary literature review was also conducted.

Results: Cervical and thoracic segments are most affected. Inflammatory demyelinating lesions vary in number, length, and distribution: Multiple Sclerosis shows multiple, short, dorsolateral lesions with punctate or incomplete ring enhancement; Neuromyelitis Optica Spectrum Disorder presents with single, longitudinally extensive central lesions, bright spotty T2 foci, prominent swelling, and ring- or lens-shaped enhancement; Myelin oligodendrocyte glycoprotein antibody-associated disease produces multiple long central gray matter or conus lesions with faint or absent enhancement and an "H-sign." Sarcoidosis and paraneoplastic myelopathy show central or tract-specific signal with subpial, lateral column, or linear canal enhancement. Non-inflammatory etiologies differ: spondylotic myelopathy shows central signal, sparing gray matter, and stenosis; spinal infarcts reveal "owl-eye" T2 hyperintensity with diffusion restriction; Dural arteriovenous fistulae show central hyperintensity, patchy enhancement, and dorsal intradural and/or epidural flow voids. Nutritional deficiencies affect dorsal/ lateral columns without enhancement, while metastases appear as central or peripheral lesions with rim, flame, or dot sign. Acute lesions often cause edema and swelling; , while chronic injury may lead, occasionally, to atrophy.

Discussion and Conclusion: Myelitis represents a spectrum of heterogeneous disorders with overlapping clinical presentations but distinct MRI patterns. Integrating lesion distribution, longitudinal extent, gray versus white matter involvement, and enhancement characteristics improves diagnostic precision. These imaging features reveal the underlying pathophysiology, facilitating differentiation among differential diagnoses and guiding subsequent management strategies.

C06

CLINICAL AND IMAGING FEATURES OF A PEDIATRIC MOGAD COHORT: DOES LESIONS' TOPOGRAPHY PREDICT RECURRENCE?

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C07

HOW DOES HIPPOCAMPAL VOLUME IN MESIAL TEMPORAL SCLEROSIS AFFECT BRAIN NETWORKS DURING A FUNCTIONAL MRI MEMORY TASK?

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Introduction: Mesial Temporal Sclerosis (MTS) is the most frequent histopathological abnormality in drug-resistant temporal lobe epilepsy. Anterior temporal lobectomy is a possible treatment, but postoperative memory deficits may follow. MTS patients activate extra-temporal regions during memory-related tasks, possibly as part of compensatory networks. Further research is required to understand these networks and how they may impact surgical outcomes. We aimed to understand how hippocampal atrophy affects connectivity during a memory fMRI task in MTS patients.

Methods: We retrospectively included drug-resistant MTS patients admitted to Coimbra Local Health Unit (2019-2023) for surgical evaluation. Patients underwent MRI, including 3D T1WI and event-related memory fMRI. Hippocampal volume ratio was automatically calculated using volBrain. CONN toolbox was used to assess the effect of hippocampal volume on seed-to-voxel functional connectivity of the right and left hippocampus in patients with right and left MTS, respectively, while performing a verbal memory task.

Results: Thirteen patients were included (eight with lMTS, five with rMTS). Hippocampal volume ratio was 0.1047±0.0406 for lMTS and 0.1144±0.0331 for rMTS patients (mean ± standard deviation). Seed-to-voxel analysis showed a positive association between hippocampal volume and connectivity with contralateral hippocampus and parahippocampal gyri in both groups. In lMTS, hippocampal volume was negatively associated with connectivity to right superior parietal lobule and supramarginal gyrus ($p<0.05$ cluster-size p-FDR corrected). No significant negative associations were found in rMTS.

Discussion and Conclusion: As expected, greater hippocampal atrophy corresponded to reduced connectivity with the parahippocampal gyri and contralateral mesial temporal regions. Surprisingly, lMTS patients with greater atrophy showed higher connectivity to right parietal areas, a compensatory network that to our knowledge has not been previously described in this condition.

C08
FLOATING UPSTREAM: INTRAVENTRICULAR MIGRATION OF INTRAOCULAR SILICONE OIL — A RARE IMAGING PITFALL

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Introduction: Intraocular silicone oil is widely used as a long-term tamponade in retinal detachment surgery. Although typically confined to the globe, it can rarely migrate through the optic nerve sheath into the subarachnoid space and ventricular system. This phenomenon may mimic intraventricular hemorrhage or neoplastic lesions, creating a potential diagnostic pitfall. Accurate recognition of its characteristic imaging features is essential to prevent misinterpretation and unnecessary interventions.

Methods: A 56-year-old man with a history of right retinal detachment presented with symptoms of dizziness and imbalance following a recent fall. Neurological examination was unremarkable. Brain CT was initially performed, followed by MRI, to investigate the new-onset symptoms.

Results: MRI demonstrated well-defined intraventricular nodules located in the anterior horns of both lateral ventricles (largest 6,5 mm on the right) and in the right suprasellar subarachnoid space (5 mm). The nodules showed intrinsic T1 hyperintensity, heterogeneous T2 signal with chemical shift artifacts, and no restricted diffusion. Similar signal characteristics were observed within the right globe and along the dural sheath of the right optic nerve, consistent with prior ocular surgery. CT revealed corresponding hyperdense foci. There was no significant mass effect, though the suprasellar droplet mildly molded the optic chiasm. Ventricular size and CSF pathways were otherwise normal.

Discussion and Conclusion: Intraventricular migration of silicone oil is an uncommon but documented phenomenon. Its tendency to accumulate in the frontal horns likely reflects its low specific gravity and the patient's supine positioning. Awareness of this pattern is essential to distinguish it from pathological entities such as ependymoma or hemorrhage.
This case illustrates a rare but classic imaging appearance of intraventricular silicone oil migration. Familiarity with its imaging features can prevent diagnostic errors and unnecessary clinical interventions.

C09

VITAMIN A DEFICIENCY–RELATED SKULL HYPEROSTOSIS AND OPTIC CANAL STENOSIS MIMICKING INHERITED RETINAL DYSTROPHY: WHEN NEUROIMAGING CHANGES THE DIAGNOSIS

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C10
NON-INVASIVE EVALUATION OF SALIVARY GLANDS USING MR SIALOGRAPHY: THREE CASES WITH DISTINCT IMAGING PATTERNS

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Introduction: Magnetic resonance (MR) sialography is a sensitive and reliable technique for evaluating the salivary glands. Fast, heavily T2-weighted sequences highlight intraluminal fluid and provide clear visualization of ductal morphology without the need for contrast injection. MR sialography can detect sialolithiasis and ductal abnormalities while also evaluating the glandular parenchyma. It is particularly useful in patients with recurrent swelling, pain, or suspected obstructive or inflammatory salivary gland disorders.

Methods: We reviewed three cases from our department database of MR sialographies, each demonstrating distinct imaging patterns.

Case 1: A control case illustrating normal ductal morphology and glandular architecture.

Case 2: A patient with right parotid changes on ultrasound, compatible with a chronic inflammatory condition, showing dilation of the Stensen duct.

Case 3: A patient with multiple sclerosis presenting with right preauricular edema and absent salivary drainage from the left Stensen duct.

Results: MR sialography of Case 2 showed marked cystic dilatation of the right Stensen's duct with distal caliber irregularities suggesting stenotic point at the papilla. Mild ectasia was noted in the intraglandular ducts, and the right parotid gland showed signs of chronic inflammation.
In Case 3, MR sialography demonstrated bilateral ectatic dilatation and irregularities of the intraglandular ducts, more pronounced on the left, with abrupt tapering at the intra- to extraglandular transition suggestive of stenosis. Small punctate hyperintensities adjacent to the ducts likely represented sialoceles.

Conclusion: These cases highlight the value of MR sialography as a non-invasive, radiation-free tool for evaluating salivary gland disorders. It allows detailed assessment of ductal and glandular abnormalities, guides diagnosis, and can inform treatment and follow-up decisions.

C11
3D-PRINTED WHITE MATTER TRACTOGRAPHY: NEUROANATOMY EDUCATION

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Introduction: Understanding the three-dimensional organization of the brain's white matter tracts remains one of the greatest challenges in neuroanatomy education. Traditional teaching methods relying on two-dimensional (2D) illustrations or tractography images often fail to convey the spatial complexity of these structures. To address this limitation, a 3D-printed model representing the major white matter tracts was developed using real MRI tractography data. This study aimed to evaluate its effectiveness as a teaching tool compared with conventional 2D-based instruction.

Methods: Diffusion tensor imaging (DTI) datasets from five patients with normal brain anatomy were processed using Syngo.Via and 3D Slicer software to reconstruct eleven major white matter tracts. The resulting models were refined, printed on a Creality Ender-3 domestic 3D printer using PLA and PETG filaments, and assembled on a custom wooden base. A total of 177 second-year medical students participated in a controlled teaching session divided into two groups: one received a traditional 2D slideshow lecture, and the other a 3D model-based session. All students completed the same pre- and post-tests comprising 10 multiple-choice questions. Statistical analyses were performed using paired and independent t-tests (SPSS).

Results: Both teaching approaches significantly improved post-test scores. Mean performance increased from 4.06 ± 1.85 to 6.82 ± 1.95 across all participants ($p < 0.001$). Students in the 3D group demonstrated a greater improvement (pre-test 4.01 ± 1.67; post-test 7.47 ± 1.77; $p < 0.001$) compared with the 2D group (pre-test 4.11 ± 2.04; post-test 6.11 ± 1.89; $p < 0.001$). Between-group comparison confirmed significantly higher post-test scores for the 3D model group ($p < 0.001$).

Discussion and Conclusion: The 3D-printed tractography model significantly enhanced students' understanding of white matter anatomy compared with conventional 2D materials. Its low-cost, reproducible design offers an effective and accessible educational tool for improving visuospatial learning in neuroanatomy.

C12
RADIOLOGICAL FEATURES IN MRI FOR THE PREDICTION OF HIGH-GRADE INTRACRANIAL MENINGIOMAS

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Introduction: Meningiomas represent the most common primary intracranial tumors, accounting for approximately one-third of all brain neoplasms. While most are benign (WHO grade 1), higher-grade subtypes (grade 2/3) are associated with increased recurrence and poorer outcomes. Preoperative identification of aggressive meningiomas remains challenging, as definitive grading requires histopathological confirmation. Conventional MRI findings and diffusion metrics, such as the apparent diffusion coefficient (ADC), have shown potential in differentiating tumor grades.

Purpose: To evaluate whether preoperative MRI features can accurately predict WHO grade 2/3 meningiomas using routinely available imaging parameters.

Materials and Methods: This retrospective single-center study included 282 patients (mean age 58.4 ± 13.4 years; 176 women) who underwent surgery for histologically confirmed meningiomas between 2010 and 2024. Preoperative MRI was assessed for tumor volume, peritumoral edema, heterogeneous enhancement, cystic components, midline shift, and normalized apparent diffusion coefficient (NADC). Univariable and multivariable logistic regression analyses identified independent predictors of high-grade meningiomas (WHO grade 2/3). Model performance was evaluated with ROC curve analysis.

Results: Among 282 meningiomas, 78% were WHO grade 1 and 22% were grade 2 or 3. High-grade tumors were significantly associated with tumor volume ≥ 45 cc ($p = 0.016$), presence of cystic components ($p = 0.005$), midline shift ≥ 3 mm ($p = 0.024$), and NADC < 1.07 ($p = 0.028$). These features remained independently associated with higher grade in the multivariable model. The resulting model achieved an AUC of 0.768 (95% CI: 0.689–0.847), with 75.5% sensitivity and 62.8% specificity at the optimal threshold.

Conclusion: A multivariable MRI-based model combining morphologic and diffusion features enables preoperative risk stratification of meningiomas, supporting surgical decision-making. Further validation in prospective, multicenter cohorts is warranted.

C13
CENTRAL NERVOUS SYSTEM INVOLVEMENT IN MULTIPLE MYELOMA: A RARE CASE OF LEPTOMENINGEAL MYELOMATOSIS

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Introduction: Multiple myeloma (MM) is a mature B-cell neoplasm with ≥10% clonal plasma cells in the bone marrow and end-organ damage. Extramedullary disease occurs in ~5% of cases; leptomeningeal myelomatosis (LMM) is rare (<1%) and carries a poor prognosis, with median survival ~2 months.

Methods: Retrospective review of a clinical case.

Results: A 55-year-old male with a six-year history of IgA-kappa MM in complete response after two years of bortezomib, thalidomide and dexamethasone (four years off treatment) presented with one-month course of bitemporal headache, asthenia, psychomotor slowing and functional decline. Examination revealed confusion, papilledema and gait instability. Brain MRI showed exuberant diffuse, thick leptomeningeal enhancement, predominantly in the right cerebral hemisphere with cerebellar involvement, displaying sulcal T2/FLAIR hyperintensity, no diffusion restriction and elevated rCBV, consistent with leptomeningeal carcinomatosis. Cerebrospinal fluid (CSF) flow cytometry confirmed central nervous system (CNS) involvement by MM. Systemic therapy with daratumumab, lenalidomide and dexamethasone was initiated, followed by discharge for monthly outpatient treatment. The patient has shown clinical and laboratory improvement after four months of therapy.

Discussion: This case illustrates LMM as progression in a patient with prior complete response, manifesting with thick enhancement of CSF spaces associated with hyperperfusion (key in distinguishing carcinomatosis from infection) and best characterized on volumetric MRI with spin-echo T1-weighted (e.g. SPACE) and T2 FLAIR images. Hematogenous spread with CSF dissemination represents a possible mechanism for this pathology. There are no established treatment guidelines as proteasome inhibitors do not cross the blood-brain barrier and standard CNS chemotherapy proves ineffective. High-dose systemic therapy, intrathecal therapy or radiotherapy have been used. Here, daratumumab (shown to be beneficial in CNS disease), achieved a positive response, avoiding the need for intrathecal therapy.

Conclusion: LMM is a rare, aggressive complication of MM. MRI plays a critical role in early, noninvasive detection for timely diagnosis and management.

C14
EVALUATING THE NECESSITY OF CONTRAST ADMINISTRATION IN THE FOLLOW-UP OF UNTREATED INTRACRANIAL MENINGIOMAS

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Introduction: Contrast-enhanced MRI remains the standard technique for monitoring patients with intracranial meningiomas. Increasing awareness of cumulative exposure to gadolinium-based contrast agents has raised questions about their routine use. This study aimed to evaluate whether gadolinium administration is essential for the surveillance of untreated intracranial meningiomas.

Methods: Single-center retrospective analysis of surgically treated and histologically confirmed intracranial meningiomas between 2010 and 2024. Last preoperative MRI was reviewed, namely a 3D post-gadolinium T1-weighted sequence and two orthogonal T2-weighted sequences. Two raters independently measured the tumor volume, using the ABC/2 score, on both non-contrast and contrast-enhanced images. Interobserver agreement was assessed, and tumor volumes compared, adjusting for slice thickness and interslice gap as potential sources of bias.

Results: A total of 169 meningiomas were analyzed, in the following locations: 53 skull base (34%), 44 cerebral convexity (28%), 32 parasagittal (21%), 14 falcine (9%), 11 cerebellar convexity (7%), and 2 intraventricular (1%). Interobserver agreement was high, with an intraclass correlation coefficient of 0.98 on contrast-enhanced and 0.73 on non-contrast images. The paired t-test showed no significant differences ($p = 0.397$) between both measurements, with a mean bias of ~7% (T2 volumes slightly lower than T1 post-contrast), and with Bland–Altman absolute limits of agreement ranging from −34.3 to +36.6 cm^3 (SD ≈ 18.09). Slice thickness did not significantly influence these differences ($p \approx 0.73$), nor did the interslice gap ($p \approx 0.51$).

Discussion/Conclusion: There were no significant differences between untreated intracranial meningioma volumes measured on T1 3D post-contrast and T2-weighted sequences, with strong correlation between raters and minimal bias. These results suggest that routine use of gadolinium may be unnecessary for the assessment of most of these tumors, offering a potential safer, faster, and more cost-effective alternative for their follow-up.

C15
SPOT THE SHUNT WITHOUT SEEING IT: INDIRECT IMAGING CLUES FOR DAVFS (DIRECT SIGNS COVERED AS WELL—JUST IN CASE)

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Introduction: The etiology of intracranial dural arteriovenous fistulas (dAVFs) is uncertain, but disturbed hemodynamics and neoangiogenesis secondary to dural sinus or cerebral venous thrombosis are implicated. Diagnosis requires high clinical suspicion: angio-CT and especially angio-MRI can show direct shunt evidence, while both may display indirect findings suggesting dAVF. Digital subtraction angiography (DSA) remains the diagnostic gold standard and guides classification and therapy.

Methods: Targeted literature review of original articles, pictorial essays, and systematic reviews on CT/MRI signs of intracranial dAVFs.

Results: Direct findings: (1) Early venous filling on arterial-phase CT angiography or time-resolved MRI; (2) High venous signal on TOF-MRA indicating arterialized flow. Indirect findings: (1) Enlarged dural or transosseous vessels; (2) Venous sinus thrombosis; (3) Intracranial hemorrhage; (4) Parenchymal edema; (5) Prominent meningeal arteries, venous sinuses, or cortical veins with flow-voids; (6) Hyperintense venous signal on SWI; (7) Orbital congestion and proptosis in cavernous dAVFs.

Technique performance: MRI shows higher sensitivity (0.90) and specificity (0.94) than CT (0.80, 0.87; p=0.02).

Discussion: Integrating clinical and imaging findings helps timely DSA and therapy.

Conclusion: Recognizing CT/MRI signs should raise suspicion for dAVF and prompt angiographic confirmation and treatment.

C16

VERTEBRO-VERTEBRAL ARTERIOVENOUS FISTULA SECONDARY TO VERTEBRAL ARTERY DISSECTION AS A RARE CAUSE OF PULSATILE TINNITUS: A CASE REPORT

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Introduction: pulsatile tinnitus account for only 10% of tinnitus, arteriovenous fístulas account for up to 20% of cases. Digital subtraction angiography (DSA) remains the gold standard for diagnosis and treatment planning. The most common location is the transverse/sigmoid sinus, usually arterial feeders from the external carotid artery. Extracranial arteriovenous fistulas, particularly the vertebro-vertebral, are very rare causes of pulsatile tinnitus with only a few cases described in the literature.

Case Report: We present the case of a 49-year-old woman with an 18-month history of incapacitating pulsatile tinnitus, more pronounced on the right side. The symptoms started a few days following a neck strain after exercise. She had no other relevant medical history and denied neurological deficits. Otoscopic examination was normal. Due to persistence of symptoms, cervical doppler ultrasonography was obtained and revealed stenosis of the right vertebral artery. Subsequent brain and cervical MRI findings were consistent with a right vertebral artery–derived arteriovenous fistula. The right vertebral artery presented with a dysplastic fusiform aneurismatic dilation at V2-V3 transition, which drained directly into highly arterialized and ectatic paravertebral and epidural venous plexus. These findings were compatible with vertebro-vertebral arteriovenous fistula. A DSA enabled a detailed characterization of the vertebrobasilar circulation, arterial input, venous outflow pattern, and to assess the feasibility of endovascular treatment.

Discussion/Conclusion: Vertebro-vertebral arteriovenous fistula are uncommon vascular malformations that can mimic benign etiologies of pulsatile tinnitus. They may develop spontaneously or after thrombosis or trauma of the vertebral artery. MRI with TOF sequences is highly sensitive in identifying the abnormal venous plexus and fistula points. Still, DSA remains essential both for exact fistula characterization and for therapeutic planning. Early recognition is crucial, as timely endovascular occlusion can result in complete resolution of tinnitus reducing psychological burden and potential neurological complications.

C17

TRAUMATIC VERTEBRAL ARTERY DISSECTION IN A YOUNG ADULT: CLINICAL, RADIOLOGICAL AND THERAPEUTIC INSIGHTS — CASE REPORT AND LITERATURE REVIEW

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Introduction: Traumatic vertebral artery dissection (VAD) is an uncommon complication of cervical trauma, although it accounts for 10–25% of posterior circulation strokes in young and middle-aged adults.VAD results from intimal injury after sudden neck rotation, hyperextension or minor blunt trauma. Endothelial disruption promotes thrombus formation and embolization, and creates a false lumen or pseudoaneurysm, predisposing to occlusion and even rupture. Early recognition and treatment are crucial to prevent neurological complications.

Methods: A 40-year-old previously healthy woman originally from USA, presented with a 12-hour history of vertigo, headache, vomiting, and gait instability, three days after experiencing neck trauma while weightlifting. Neurological examination revealed partial left-side Horner's syndrome, nystagmus, diplopia, dysphonia, left dysmetria, right-sided hypoalgesia, and orthostatic intolerance, consistent with Wallenberg syndrome. Brain CT was normal. CTA showed subocclusive stenosis of the left vertebral artery (V4) and a broad-based outpouching at V3-V4 (probable pseudoaneurysm). MRI demonstrated a left lateral medullary infarction with loss of flow signal from V3 to V4 and an intramural hematoma, consistent with VAD. Dual antiplatelet therapy (DAPT) with aspirin 100 mg plus clopidogrel 75 mg was initiated.

Results: The patient improved with rehabilitation following conservative treatment and was discharged on DAPT for 21 days, followed by aspirin monotherapy.

Discussion: VAD should be suspected in young patients with posterior circulation stroke following neck trauma. CTA and MRI are essential for the diagnosis. Radiographic high-risk features (severe stenosis or occlusion, intraluminal thrombus) may warrant anticoagulation. In extracranial dissections with intradural extension, short-term DAPT (21–90 days) followed by monotherapy is recommended.

Conclusion: Awareness of VAD as a potential cause of posterior circulation ischemia after minor cervical trauma, along with early neuroimaging and antithrombotic therapy, is crucial to prevent stroke progression and improve outcomes.

C18
DYNAMIC MRI, DYNAMIC FINDINGS

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Introduction: Cervical spondylotic myelopathy (CSM) is a degenerative disorder of the cervical spine that leads to progressive neurological deterioration. Beyond static degenerative changes, dynamic factors related to cervical motion play an important role in the pathogenesis and severity of spinal cord compression. Dynamic magnetic resonance imaging (MRI) of the cervical spine, performed in different physiological positions—neutral, flexion, and extension—enables visualization of motion-related alterations in spinal canal dimensions and cord deformation, offering improved diagnostic and preoperative assessment.

Methods: Dynamic MRI (dMRI) was performed on a 1.5-T scanner with the patient in a supine position and the cervical spine centered within a dedicated coil. Sagittal T2-weighted sequences were acquired in neutral, flexion, and extension positions within the patient's range of comfort. Position stability was achieved using foam pads: under the occipital region to obtain flexion and between the trapezius muscles at the most prominent cervical spinous process to achieve extension. The dMRI technique allows assessment of dynamic changes in the spinal canal, osteoligamentous structures, and spinal cord compression.

Results: Extension-position imaging frequently demonstrated cord compression in patients whose neutral MRI only showed partial or total obliteration of the perimedullary subarachnoid space. This position tends to accentuate spinal cord deformation and reveal T2 signal changes not visible in the neutral position.

Discussion: Dynamic cervical MRI is particularly valuable in patients with suspected motion-induced compression but inconclusive findings on static studies. Extension imaging appears most effective in revealing worsening stenosis and enhancing diagnostic accuracy, providing important information for surgical planning.

Conclusion: Dynamic cervical MRI is a promising tool for assessing CSM, allowing identification of motion-related canal stenosis and improving diagnostic sensitivity. By demonstrating functional compression and its correlation with neurological deficits, this technique may guide therapeutic strategies—especially surgical—and ultimately improve patient outcomes.

C19

THE IMAGING DILEMMA IN AXIAL SPONDYLOARTHRITIS: BALANCING EARLY DIAGNOSIS AND SPECIFICITY — UPDATED EVIDENCE AND PICTORIAL REVIEW FROM A SINGLE-CENTER EXPERIENCE

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Imaging plays a central yet increasingly complex role in the diagnosis of axial spondyloarthritis (axSpA). MRI has revolutionized early detection by revealing active sacroiliac inflammation before structural damage occurs, but the poor specificity of bone marrow edema has triggered a diagnostic dilemma. Mechanical stress, anatomical variation, and physiological changes—particularly in women and athletes—can mimic inflammatory patterns, challenging diagnostic confidence.

This work aims to synthesize the most recent scientific evidence on imaging in axSpA and to present a pictorial review of cases from our institution, highlighting radiologic–clinical correlations and diagnostic pitfalls. Recent literature underscores the need to integrate inflammatory and structural findings rather than rely on isolated edema. Erosions, fat metaplasia, sclerosis, and ankylosis increase specificity and support disease staging. Low-dose CT refines the assessment of chronic lesions, while ultrasound adds complementary information on peripheral enthesitis.

Emerging techniques—quantitative MRI, radiomics, and artificial intelligence—promise improved lesion characterization and objective differentiation between mechanical and immune-mediated processes, though they remain exploratory. Our pictorial review illustrates this evolving paradigm through representative cases showing active, chronic, and mimicking patterns.

In conclusion, accurate interpretation of imaging in axSpA demands clinical context, awareness of normal variants, and critical evaluation of imaging biomarkers. A multimodal and multidisciplinary approach remains key to balancing early diagnosis with diagnostic specificity, preventing both over- and under-diagnosis in clinical practice

C20
CHARCOT-BOUCHARD ANEURYSMS IN THE POSTERIOR CIRCULATION — CASE SERIES AND LITERATURE REVIEW

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Introduction and methods: Microaneurysmal dilations of perforating branches of the intracranial arterial circulation, otherwise known as Charcot-Bouchard (CB) aneurysms, are a rare and poorly understood entity. We report four cases identified in our institution of CB-like dilations of perforating branches of the posterior intracranial circulation. We intend to analyze the clinical implications of the identified cases and provide a review of typical diagnostic imaging techniques and current treatment options for CB aneurysms.

Results: Three cases presented with sudden non-traumatic intracranial subarachnoid hemorrhage, with DSA revealing millimetric dilations of perforating branches of the superior cerebellar arteries and V4 segment of the vertebral artery next to the origin of the anterior spinal artery. The fourth case, from a 27-year-old woman with an acute mesencephalic ischemic stroke, led to the identification on DSA of small aneurysmal dilations in an artery of Percheron variant. All cases underwent a conservative approach, with none submitted to endovascular treatment.

Discussion: Though traditionally encountered in the setting of intracranial hemorrhage of hypertensive nature, recent studies have associated CB aneurysmal dilations with chronic small vessel disease, revealing the potential for both hemorrhagic and ischemic manifestations of these lesions. Advances in endovascular treatment approaches have allowed for embolization to be increasingly considered in highly selected cases; however, a cautious stance is still broadly adopted.

Conclusion: A long path awaits in the full comprehension of CB aneurysm's underlying pathology, clinical behavior, and patient outcomes, highlighting the need for further research. Findings in our case series underscore the importance of recognizing atypical presentations and the potential role of advanced imaging in guiding management.

C21
TO TREAT OR NOT TO TREAT? AN INVERSE PROBABILITY WEIGHTING ANALYSIS OF INTRACRANIAL ANEURYSMS WITH INCONCLUSIVE UIATS SCORES

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Introduction: Management of unruptured intracranial aneurysms (UIAs) is challenging when the Unruptured Intracranial Aneurysm Treatment Score (UIATS) is inconclusive, leaving patients in a therapeutic "gray zone". This study compared one-year outcomes between conservative and interventional management in patients with UIAs and inconclusive UIATS scores and assessed the efficacy and safety of endovascular versus surgical interventions.

Methods: We retrospectively reviewed 149 adults with angiographically confirmed saccular UIAs and inconclusive UIATS scores treated at a tertiary center (2018–2024). Patients were stratified by management strategy: conservative (68 patients) or interventional (81 patients, endovascular or surgical). Inverse probability of treatment weighting (IPTW) was applied to balance baseline covariates. One-year outcomes included aneurysm rupture, procedural complications, ischemic and hemorrhagic events, retreatment, and functional status (mRS).

Results: After IPTW, the weighted pseudo-population comprised 125 patients managed conservatively and 143 treated. Intervention was associated with better functional outcomes (aOR 2.526, 95% CI 1.075–5.935, p=0.033) versus conservative management. Surgical clipping had higher complete occlusion rates than endovascular treatment (86.2% vs. 53.3%), but this was not statistically significant (aOR 0.633, 95% CI 0.087–4.608, p=0.652). Procedural complications, ischemic events, recanalization, retreatment, and favorable functional outcomes (mRS <2) were similar between groups.

Conclusions: In patients with inconclusive UIATS recommendations, intervention significantly enhances functional outcomes, and both surgical and endovascular modalities demonstrate comparable efficacy and safety. These findings support the consideration of active treatment even when UIATS guidance is indeterminate, highlighting the need for individualized, multidisciplinary decision-making in this complex population.

C22

FLOW DIVERTER ENDOVASCULAR TECHNIQUE IN INTRACRANIAL ANEURYSMS: INSTITUTIONAL EXPERIENCE AND EVALUATION OF FDSS AND SMART SCALES

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Introduction: The flow diverter endovascular technique has become an established option for the treatment of intracranial aneurysms, allowing safe and durable exclusion. Several angiographic grading systems, such as the SMART (Simple Measurement of Aneurysm Residual after Treatment), and FDSS (Flow-Diverter Stent Score), have been proposed to predict aneurysm occlusion. However, their clinical applicability remains uncertain.

Methods: We conducted a retrospective analysis of all patients treated with flow diverters at our center between 2013 and 2024. Ninety-seven were included. Demographic, aneurysm, and procedural data were collected and analyzed. Angiographic predictive outcome was classified according to the SMART and FDSS scales. Logistic regression and receiver operating characteristic (ROC) curve analyses were performed to evaluate the predictive performance of both scales.

Results: Among the patients, 85.3% presented wide-neck aneurysms. At final follow-up, 79.3% achieved complete occlusion, 14.9% subtotal occlusion and 5.8% treatment failure.The FDSS showed a negative association with treatment success (OR = 0.72; p = 0.078), while the SMART showed a positive association (OR = 1.32; p = 0.147); neither reached statistical significance. ROC analysis demonstrated AUC = 0.678 for FDSS and AUC = 0.661 for SMART, both below the 0.7 threshold for clinical usefulness.

Discussion: This institutional series confirms the high efficacy of the flow diverter endovascular technique in aneurysm exclusion. Nevertheless, the SMART and FDSS scales demonstrated limited predictive value, consistent with previously published data.

Conclusion: Our experience highlights the excellent efficacy and safety of flow diversion for complex intracranial aneurysms. However, currently available angiographic grading scales lack predictive power for clinical application, supporting the need for new, multidimensional and multicentre studies models to improve outcome prediction.

C23

EFFICACY AND SAFETY OF MECHANICAL THROMBECTOMY FOR TREATMENT OF DISTAL, MEDIUM MIDDLE CEREBRAL ARTERY OCCLUSIONS: A SINGLE-CENTER RETROSPECTIVE

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Background: Distal, medium vessel occlusions (DMVOs) are increasingly recognized as an emerging target for endovascular treatment. Our purpose was to evaluate the efficacy and safety of mechanical thrombectomy (MT) in a single-center cohort for second-order branches of the middle cerebral artery (MCA) and beyond.

Methods: A retrospective review of patients presenting with M2-M4 acute ischemic stroke who underwent MT between 2022 and 2024 in our institution, Unidade Local de Saúde (ULS) de Braga.

Results: A total of 136 patients with ischemic stroke were submitted to MT. 66% of patients achieved 90-day functional independence (mRS 0–2), with an overall mortality of 5.5%. 15 patients developed post-procedural ICH, of which 4 were symptomatic (≥4-point NIHSS increase). Successful recanalization was achieved in 92.6% of cases. Median door-to-needle and door-to-puncture times were 41 and 214 minutes, respectively, and the median procedure duration was 43 minutes. Early neurological improvement (≥4-point NIHSS decrease within 24 hours) occurred in 42.1% of patients.

Discussion: Our outcomes compare favorably with prior multicenter series of distal and medium vessel thrombectomy. Notably, the gap between early improvement, reflected in ENI, and long-term outcomes, likely indicates delayed recovery in some cases, despite generally favorable long-term outcomes. Given the higher procedural risks of distal MT, decisions should weigh risk-benefit balance, baseline neurological status, and vascular accessibility.

Conclusions: In our cohort, DMVO thrombectomy was associated with favorable functional independence rates, a low rate of procedural complications, and low mortality, supporting the efficacy and safety of MT in distal occlusions. Further studies, particularly RCTs with larger sample sizes, are warranted to assess these findings.

C24
ENDOVASCULAR TREATMENT OF MIDDLE CEREBRAL ARTERY ANEURYSMS: A SINGLE-CENTER EXPERIENCE

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Introduction: Middle cerebral artery (MCA) aneurysms account for a significant proportion of intracranial aneurysms and are often considered suitable for surgical management due to their morphology and location. However, advances in endovascular techniques have progressively expanded their indications. This study aims to evaluate the outcomes and complications of endovascular treatment of MCA aneurysms over a seven-year period.

Methods: A retrospective observational study was conducted, including all patients with MCA aneurysms (ruptured and unruptured) treated by endovascular means at our institution over a seven-year period, between October 2018 and September 2025. Demographic, clinical, and imaging data were collected, and the technical aspects of the angiographic procedures were reviewed. During follow-up, patients' functional outcomes, aneurysm occlusion rates, and potential complications were assessed.

Results: A total of 72 patients were included, most of whom had aneurysms located at the MCA bifurcation (72%) and presented unruptured (78%). The most frequently used treatment technique was flow-diverter stenting (36%). Immediate complete occlusion was achieved in 66% of cases, with a progressive reduction of residual filling in the remaining aneurysms. The overall complication rate during the follow-up period was 9.7%, with no mortality directly related to the procedure.

Conclusion: Endovascular treatment of MCA aneurysms demonstrated a high rate of occlusion and low morbidity. Further comparative studies are warranted to better define its role relative to surgical clipping.

C25
THE VALUE OF CBCT IMMEDIATELY BEFORE AND AFTER ENDOVASCULAR AIS

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Introduction: Cone Beam Computed Tomography (CBCT) has become an increasingly valuable complementary diagnostic tool in angiography suites. Its use in the setting of mechanical thrombectomy may optimize patient selection, enable early detection of complications, and provide prognostic information.

Objective: To evaluate the diagnostic and prognostic value of CBCT performed before and after thrombectomy, in complement to conventional imaging studies routinely used in the management of acute ischemic stroke (AIS).

Methods: Retrospective data were collected from 35 patients who underwent CBCT before and/or after mechanical thrombectomy for acute ischemic stroke due to large vessel occlusion between January and October 2025. CBCT images were reviewed for the presence of areas of contrast enhancement and intra- or extra-axial hemorrhage. Findings were compared with follow-up CT scans and clinical outcomes.

Results/Discussion: Of the 35 patients included, 21 underwent CBCT both before and after thrombectomy, 3 only pre-procedure, and 11 only post-procedure. In two patients, pre-procedural CBCT demonstrated hemorrhagic transformation, leading to cancellation of the thrombectomy and avoidance of unnecessary/potentially dangerous intervention. Early cortical contrast enhancement observed in post-thrombectomy CBCT (9 cases) correlated well with the area subsequent infarction (44%) or hemorrhagic transformation (55%) on follow-up CT. In cases with negative post-procedural CBCT (18 cases), the final infarction volumes and rates of hemorrhagic transformation were lower. In patients with extra-axial hemorrhage after thrombectomy, CBCT enabled early detection of potential complications.

Conclusion: CBCT performed before and after thrombectomy proved to be a valuable diagnostic and prognostic tool. Pre-procedural CBCT allowed the identification of hemorrhage (early hemorrhagic transformation), while post-procedural CBCT enabled early detection of complications and helped predicting subsequent infarction volume and hemorrhage.

C26

USEFULNESS OF POST-THROMBECTOMY CBCT FOR ANTICIPATING IMMEDIATE COMPLICATIONS: EARLY RESULTS FROM ROUTINE POST-PROCEDURAL IMAGING

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Introduction: Cone-beam CT (CBCT) has been increasingly used in our center as an immediate imaging tool following mechanical thrombectomy. Although it does not replace the standard 24-hour CT, we hypothesize that CBCT may anticipate relevant findings — such as parenchymal or extra-axial hyperdensities and residual thrombus — providing an early check of procedural safety before patient transfer.

Objective: To assess the ability of post-thrombectomy CBCT to anticipate immediate complications and its correlation with the 24-hour CT.

Methods: We retrospectively reviewed 35 patients treated with mechanical thrombectomy. Three did not undergo post-procedural CBCT and were excluded from the main analysis. Thirty patients with both post-thrombectomy CBCT and 24-hour CT were evaluated. CBCT findings, including parenchymal or extra-axial hyperdensities and residual thrombus, were compared with the follow-up CT to determine concordance.

Results: Among 30 patients, eight showed abnormalities on CBCT confirmed on the 24-hour CT, four had findings that resolved (likely contrast staining), two (6,7%) developed hemorrhage only on the 24-hour CT, and sixteen had concordantly normal exams. CBCT showed a sensitivity and specificity of 80%, a negative predictive value of 88.9%, and overall concordance of 80%. Residual thrombus was seen in two patients, correlating with subsequent infarction — one visible at 24 hours and one later. In one case, both parenchymal and extra-axial hyperdensities were seen on CBCT, with only the extra-axial component persisting at 24 hours.

Conclusion: Post-thrombectomy CBCT showed good agreement with the 24-hour CT for detecting immediate complications, with a high negative predictive value. These findings support CBCT as a useful and safe tool for immediate post-procedural assessment and warrant confirmation in larger studies.

C27
NEUROMELANIN MRI AS A POTENTIAL BIOMARKER OF PRECLINICAL NEURODEGENERATION IN LRRK2 CARRIERS

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Introduction: Parkinson's disease (PD) is a neurodegenerative disorder caused, in rare cases, by pathogenic genetic variants, the most frequently known located in the LRRK2 gene. However, due to incomplete penetrance, some carriers remain asymptomatic throughout life. Identifying non-invasive biomarkers for PD preclinical stages is essential, particularly for selecting participants in disease-modifying therapy trials, which may be most effective early in the neurodegenerative process. Neuromelanin (NM) in the substantia nigra (SN) is an established MRI biomarker of PD, reflecting nigrostriatal dysfunction and showing alterations years before symptom onset. Assessing NM in asymptomatic LRRK2 carriers may provide insight into early pathogenic mechanisms and offer a prodromal non-invasive biomarker of neurodegeneration.

Methods: Asymptomatic relatives of patients with LRRK2-associated PD were recruited and clinically assessed for motor and non-motor symptoms. Brain MRI with NM-sensitive sequence was performed, and NM signal and area were quantified and qualitatively evaluated by blinded raters using a semi-automated segmentation method. Participants were genotyped for the familial LRRK2 variant. Statistical analyses were performed using non-parametric tests.

Results: Nineteen participants completed clinical and imaging assessments: 12 non-carriers (NC) and 7 asymptomatic carriers (AC) of the LRRK2 variant. Groups did not differ in age or sex. The mean NM area was smaller in AC compared to NC. The MoCA score was slightly higher in AC, with no other motor or non-motor differences.

Discussion: The reduced NM area observed in AC suggests early nigrostriatal changes, consistent with preclinical dopaminergic dysfunction. This supports the notion that NM loss may precede overt motor symptoms in genetically at-risk individuals.

Conclusion: NM-sensitive MRI may represent a promising, non-invasive biomarker for detecting early neurodegeneration in preclinical PD.

C28
CRITICAL ILLNESS-ASSOCIATED CEREBRAL MICROBLEEDS IN SICKLE CELL DISEASE CRISIS

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Introduction: Critical illness-associated cerebral microbleeds (CICM) is a rare and recently described phenomenon that can occur in critically ill patients with respiratory failure. It presents with microbleeds that follow a distinct pattern on MRI, predominantly affecting the juxtacortical white matter, corpus callosum and brainstem.

Methods: Retrospective review of a clinical case.

Results: We report a patient with sickle cell disease crisis who was admitted in the ICU for respiratory failure. Following altered mental state, a brain MRI was performed, which revealed innumerable microhemorrhages visible only in T2* sequence, affecting predominantly the bilateral juxtacortical white matter, the corpus callosum, internal and external capsules, and the middle cerebellar peduncles, with additional sparse foci in the right pons, left dentate nucleus and cerebellar hemispheres.

Discussion: Cerebral microbleeds are commonly observed in disorders like chronic hypertension, amyloid angiopathy, and trauma-related diffuse axonal injury, with a characteristic distribution in specific brain regions. In patients with sickle cell disease, brain microhemorrhages can also be the result of fat emboli. Recent studies have highlighted a distinct pattern of microbleeds in patients with critical illnesses, most commonly affecting the juxtacortical white matter and corpus callosum, but rarely the cortex, deep and periventricular white matter, basal ganglia, and thalami. This pattern is similar to that described in patients with high-altitude sickness or acute respiratory distress syndrome, which suggests hypoxemia as a potential underlying mechanism. CICM is associated with high mortality and permanent neurological deficits, and treatment remains largely supportive.

Conclusion: CICM is a rare phenomenon seen in critically ill patients that presents with a distinct pattern of cerebral microhemorrhages, making its recognition essential in reaching the correct diagnosis.

C29

MRI PATTERNS OF BRAIN ATROPHY IN NEURODEGENERATIVE DISORDERS: A PICTORIAL REVIEW OF SELECTIVE VULNERABILITY

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Introduction: Neurodegenerative disorders are marked by selective vulnerability of specific brain regions, reflected in distinct MRI atrophy patterns. Recognizing these patterns is essential for accurate differential diagnosis, particularly in atypical and early-onset cases.

Methods: We conducted a retrospective review of the MRI patterns of atrophy in clinical cases from our dedicated dementia and movement disorders clinic, along with a review of the literature. The review encompassed Alzheimer's disease (AD) variants, clinically and genetically-defined frontotemporal dementia (FTD), Lewy body disease, corticobasal degeneration, progressive supranuclear palsy, multiple system atrophy, Huntington disease and spinocerebellar ataxias.

Results: Distinct and particular atrophy patterns were frequently identified, underlining heterogeneity within and across neurodegenerative disorders. We present didactic summary imaging panels with the main findings across diseases and their subtype variants. Knowledge of specific regional susceptibility is essential for an accurate differential diagnosis, which frequently can only be disentangled through biomarker confirmation.

Discussion and conclusion: Accurate recognition of distinct MRI atrophy patterns plays a pivotal role in the diagnostic process in a neurodegeneration clinic, especially in the context of clinically overlapping or atypical syndromes, where imaging findings may provide crucial diagnostic information. In such scenarios, where symptomatology may be misleading or nonspecific, MRI becomes a decisive tool in guiding the diagnostic work-up. A detailed radiological understanding of these selective vulnerability patterns thus reinforces the neuroradiologist's essential role in the multidisciplinary evaluation and management of neurodegenerative diseases.

C30
CORTICAL AND DEEP GRAY MATTER INVOLVEMENT IN SPORADIC CREUTZFELDT-JACOB DISEASE: IMAGING PATTERNS AND DIAGNOSTIC CRITERIA

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Introduction: Sporadic Creutzfeldt–Jakob disease (sCJD) is a rapidly progressive prion encephalopathy. In-vivo diagnosis is supported by diffusion-weighted MRI (DWI). International surveillance criteria (2017) defined typical MRI as cortical ribboning in ≥2 lobar regions (temporal, parietal, occipital) or caudate/putamen hyperintensity. Bizzi et al. (2020) proposed a simplified criteria set: involvement of ≥1 among seven regions (frontal, temporal, parietal, occipital, caudate, putamen, thalamus).

Methods: We retrospectively analyzed DWI findings in 18 patients with probable sCJD, with available clinical/imaging data, diagnosed between 2014 and 2025. Variables included sex, age at diagnosis, 14-3-3 category, fulfillment of EEG and clinical criteria, and time interval from the first MRI to death. We evaluated DWI/ADC across eight predefined regions (frontal, temporal, parietal, precuneus, occipital, caudate, putamen, thalamus). Both criteria (current surveillance MRI and the simplified Bizzi) were applied.

Results: All 18 patients fulfilled clinical criteria, with frequent EEG and 14-3-3 support. Mean age at diagnosis was 65,28 years. Among 13 with survival data, mean time from first MRI to death was 4 months. MRI demonstrated variable cortical/deep gray matter involvement as hyperintense signal on DWI. Regional involvement was pronounced in the frontal cortex and caudate, followed in decreasing prevalence, by the parietal and precuneus, thalamus, putamen, and temporal cortex. Occipital cortex was least frequently affected. Bilateral, symmetric involvement was more common in deep nuclei (caudate and thalamus) than in the cortical regions, and right-hemispheric predominance was observed, without statistical significance. Patients with follow-up MRI (n=6), tended toward bilateral progression. All cases satisfied both MRI criteria.

Discussion and conclusion: A structured region and hemisphere MRI analysis confirmed a frontal cortical predominance with medial parietal extension and dominant caudate involvement. Both current surveillance and simplified Bizzi criteria were met in all cases. Larger prospective studies should validate these observations and correlate regional patterns to clinical trajectories and outcomes.

Posters

P01
MARBURG VARIANT OF MULTIPLE SCLEROSIS: WHEN TIME MATTERS THE MOST — A CASE REPORT

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Introduction: Marburg variant of multiple sclerosis (MS) is a rare and rapidly progressive form of demyelination of the CNS, often leading to death within a year. Early recognition is crucial for effective management, but imaging diagnosis can be challenging.

Methods: We describe a successfully treated case of probable Marburg variant of MS, focusing on imaging findings and differential diagnosis.

Results: A 36-year-old man presented with seizures and speech impairment, with rapid neurological deterioration. Laboratory tests showed an increase in inflammatory markers and blood cultures were negative. Imaging revealed two tumefactive lesions with mass effect in the left frontal white matter and in the left cerebellar hemisphere; on MRI, the lesions had marginal diffusion restriction and incomplete peripheral enhancement, suggestive of pseudotumoral demyelinating lesions. Rapid lesion expansion with midline shift was seen on follow-up CT, requiring decompressive craniectomy and intensive care. A brain biopsy was made, showing few mononuclear inflammatory cells, astrogliosis, and possible demyelination. CSF analysis showed mild pleocytosis with slightly elevated protein; infectious, autoimmune, and neoplastic studies were negative, and no oligoclonal bands were detected. Based on these features, a probable diagnosis of Marburg variant of MS was established. Treatment included high-dose corticosteroids, plasmapheresis, and rituximab. Despite initial severe clinical decline, the patient showed gradual clinical and radiological improvement.

Discussion: Marburg variant MS is a fulminant demyelinating disease with poor prognosis, usually due to brainstem involvement or mass effect. Pathogenesis remains unclear and CSF findings are nonspecific.Imaging plays a crucial role in early diagnosis, typically showing large confluent white matter lesions with incomplete ring enhancement and mass effect, mimicking tumor or infection. Prompt imaging interpretation and timely intervention with aggressive immunosuppressive treatment can be life-saving and may result in better outcomes.

Conclusion: This case highlights the importance of prompt diagnosis and aggressive multidisciplinary management in Marburg variant MS.

P02
SOCIAL MEMORY DEFICITS IN MULTIPLE SCLEROSIS: NORMAL-APPEARING WHITE MATTER CORRELATES

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P03
IATROGENIC DEMYELINATION MIMICKING MULTIPLE SCLEROSIS ASSOCIATED WITH USTEKINUMAB THERAPY: A CASE REPORT

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Introduction: Ustekinumab, a monoclonal antibody targeting interleukin (IL)-12 and IL-23, is widely used in the treatment of psoriasis and other immune-mediated diseases. Although generally well tolerated, rare neurological adverse events, including central nervous system (CNS) demyelination, have been reported.
We present a case of ustekinumab-associated multifocal demyelinating lesions initially mimicking a primary demyelinating disease.

Methods: A 58-year-old male with long-standing psoriasis under ustekinumab therapy since 2016 presented with acute right-sided weakness, incoordination, and dysarthria. Neurological examination revealed mild right hemiparesis and a positive Romberg sign. Brain MRI demonstrated a periventricular lesion with radiating morphology, central vein sign, contrast enhancement, and mild mass effect, along with multiple non-enhancing subcortical lesions. Cerebrospinal fluid analysis showed normal biochemistry and no oligoclonal bands. Extensive infectious, autoimmune, and vasculitic workup was negative. Anti-AQP4 and anti-MOG antibodies were undetectable.

Results: The patient received intravenous methylprednisolone (1 g/day for 5 days) with complete clinical recovery. Follow-up MRI at two months showed decreased lesion size, resolution of enhancement, and no new lesions. Ustekinumab was discontinued, with no neurological relapse during a two-year follow-up. Repeat imaging confirmed stability of the previous findings.

Discussion: The radiological pattern initially suggested a demyelinating process compatible with multiple sclerosis, but the absence of dissemination in time and space and the close temporal association with ustekinumab therapy supported a drug-induced demyelination. Proposed mechanisms include immune dysregulation via IL-12/IL-23 inhibition and subsequent Th1/Th17 pathway imbalance.
Recognition of this iatrogenic entity is critical to avoid misdiagnosis and unnecessary long-term immunomodulatory therapy.

Conclusion: Ustekinumab-induced demyelination, although rare, should be considered in patients presenting with new demyelinating CNS lesions under biologic therapy. MRI findings may closely mimic multiple sclerosis, and clinical-radiological correlation is essential for accurate diagnosis and management.

P04
FROM MRI SUITES TO WATERWAYS: REVISITING GBCA PROTOCOLS TOWARDS ENVIRONMENTAL HEALTH

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Introduction: Gadolinium-based contrast agentes (GBCAs) have been pivotal in radiology since their introduction in the 1980s, with around 700 million doses administered since, worldwide. Recently their use has raised environmental concerns, as their excretion, unmetabolized, into sewage systems has led to accumulation in water sources, and, consequently, in aquatic organisms, their detection being subject of increased scrutiny. Several strategies have emerged, including AI-enhanced protocols with reduced contrast volume, and reconsidering which pathologies require GBCA administration. One recent example is their routine use in follow-up multiple sclerosis (MS) studies, with several hospitals using it only in certain contexts, our Hospital having adopted this approach in late 2023. Here we analyse its impact and, hopefully, encourage healthcare professionals to be more conscientious of this issue.

Methods: Data collection and analysis, through keyword search in our institution's clinical record from February to July of 2024, concerning MRI protocols in MS. Literature review consisted of Pubmed search with keywords: gadolinium environmental effects; gadolinium contamination; ecotoxicology gadolinium; gadolinium environmental impact.

Results: In 314 studies (median age=45), 97(~31%) did not require contrast administration following the new criteria. This translated to an average saving of 750ml of contrast of contrast over 6 months (nearly 10% of the hospital's average usage). This is also the equivalent of 4000€ in savings.

Discussion: This study demonstrates a substantial reduction of gadolinium-based contrast agent (GBCA), lowering expenditures on expensive contrast media, as well as important environmental implications. Given the concerns over possible ecotoxicity of gadolinium in ecosystems, strategies such as this should be encouraged to reduce its bioaccumulation.

Conclusion: Recent publications emphasize reducing GBCA administration in clinical practice whether reducing dosages used, through new agents or implementing better waste collection. Here we show combined cost savings and potential environmental benefits by promoting judicious use of GBCAs, emphasizing sustainable clinical practice and ecological responsibility.

P05
LOST AND NOT FOUND: TOTAL RESORPTION OF AN AUTOLOGOUS BONE GRAFT IN EARLY INFANCY

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Introduction: Bone flap resorption (BFR) is a long-term complication of autologous cranioplasty, especially in paediatric patients. Risk factors include young age, post-traumatic hydrocephalus, comminuted fractures, and parenchymal contusion. We report a rare case of complete resorption of a parietal graft after decompressive craniectomy in an infant, focusing on imaging findings and outcome.

Methods: Single-patient case report with review of clinical data, surgery, and neuroimaging over 12 months. Pre- and postoperative CT/MRI were analysed for cranial and parenchymal changes.

Results: A 4-month-old boy sustained severe traumatic brain injury after a fall, with right parietal diastatic fracture with misaligned edges, epidural and epicranial collections, subarachnoid haemorrhage, and parenchymal laceration herniating through the defect. Decompressive craniectomy with autologous cranioplasty achieved initial improvement. Later, a fistulous tract and bone thinning led to complete flap resorption at eight months. Secondary cranioplasty with an osteoinductive implant ensured stable reconstruction.

Discussion: BFR in children varies in incidence and increases with risk factors such as those in this case, impairing osteointegration and promoting early osteolysis.

Conclusion: Autologous cranioplasty in infants carries high resorption risk. Synthetic or osteoinductive materials may prevent bone loss, and close follow-up is essential to detect graft failure early.

P06
NOT YOUR USUAL TORCULAR STORY: ANTERIOR FETAL DURAL SINUS MALFORMATION WITH SPONTANEOUS RESOLUTION

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Introduction: Fetal dural sinus malformations (DSM) are rare congenital vascular anomalies, usually centered at the torcular Herophili; anterior or extra-torcular locations are exceptional. We report an anterior DSM with spontaneous thrombosis and complete postnatal regression—an atypical story in the DSM spectrum.

Methods: A 35-year-old pregnant woman was referred at 22 + 5 weeks for assessment of a suspected fetal intracranial mass. Serial fetal MRIs at 24 and 29 weeks (T1W, T2W, SWI, DWI) and postnatal MRI/MR venography (MRV) were reviewed retrospectively.

Results: At 24 weeks, MRI showed a lobulated, heterogeneous, extra-axial lesion along the anterior superior sagittal sinus, consistent with a thrombosed venous pouch. By 29 weeks, the lesion had decreased. Pregnancy and delivery were uneventful. Postnatal MRI confirmed complete resolution, with mild anterior extra-axial widening and subtle frontal remodeling. MRV showed a small developmental venous anomaly and slight signal loss in the anterior sagittal sinus, suggesting compensatory venous remodeling.

Discussion: While most fetal DSMs occur at the torcular, anterior sagittal variants are exceedingly rare. The spontaneous involution and remodeling resemble regressing torcular DSMs, supporting a shared low-flow developmental mechanism. Progressive shrinkage and absence of arterial shunting predicted a benign outcome.

Conclusion: Anterior fetal DSMs, though exceptional, may follow a favorable course. Recognition of this variant broadens the anatomical DSM spectrum and highlights the value of serial fetal MRI.

P07
THE TALE OF THE DANCING ODONTOID AND THE MYSTERIOUS CARDIORESPIRATORY ARREST

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Introduction: The atlantoaxial articulation is equally mobile and stable. Atlantoaxial rotatory subluxation (AARS) is usually seen in pediatric population in the context of trauma, although it has also been reported in adults. These lesions are mostly classified by the Fielding and Hawkins' classification, considering the integrity of the alar ligament and the displacement of the atlas mass. Patients with traumatic AARS usually complain of neck pain and perform a computed tomography scan in the setting of the traumatic event. There is no consensus in the literature whether surgical or conservative management is the best option.

Methods: This presentation shares the case of a patient who suffered several cardiorespiratory arrests after a polytrauma.

Results: A previously healthy 29-year-old man was admitted after falling from a truck with a consequent head and neck trauma, with a Glasgow Coma Scale of 8 (O1, V2, M5), left hemiparesis and roving eyes. A craniectomy and cleaning of debris was performed in the urgent setting. The patient suffered several cardiorespiratory arrests which were eventually related to mobilization; a cervical CT scan was performed and compared with the admission exams — an AARS was noted, with a deviation of the dens to the left. The patient was eventually submitted to a C1-C2 fusion.

Discussion and Conclusion: A purely traumatic dislocation is rare, and this patient presented a major challenge due to the impossibility of a complete neurological assessment and the absence of other cervical injuries other than the rotatory subluxation of C1-C2 junction.

P08
CAROTID WEB AS AN UNDERRECOGNIZED CAUSE OF ISCHEMIC STROKE IN YOUNG PATIENTS: A CASE REPORT

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Introduction: Carotid webs are rare vascular abnormalities of the internal carotid artery that represent an underrecognized but significant cause of cryptogenic and recurrent ischemic stroke, particularly in young and otherwise healthy individuals

Methods: Retrospective review of a clinical case.

Results: We report a 40-year-old male who presented with an ischemic stroke and underwent endovascular treatment for acute middle cerebral artery occlusion. Initial inpatient investigation revealed a thrombus located at the bulbar segment of the ICA that was assumed to be cardioembolic. During ambulatory investigation, the initial angio-CT images were revisited, and the possibility of a carotid web was considered. Repeat angio-CT confirmed the presence of a carotid web (now with no associated local thrombus), and the patient underwent carotid angioplasty with stent placement.

Discussion: A carotid web is defined as a thin, linear membrane extending from the posterior wall of the internal carotid artery bulb into the lumen, just beyond the carotid bifurcation. The lesion is highly thrombogenic: disturbed flow dynamics promote blood stasis, platelet activation, and thrombus formation, which may embolize to intracranial vessels. CT angiography is the primary diagnostic tool, with thin axial and oblique sagittal reconstructions best demonstrating the web as a linear filling defect. Digital subtraction angiography remains the gold standard, revealing contrast pooling within the web, though optimal visualization often requires oblique projections. Given the substantial risk of recurrence, treatment is crucial. While pharmacological therapy with antiplatelet agents may be employed, emerging evidence suggests lower recurrence rates with surgical interventions such as carotid stenting.

Conclusion: Carotid webs, although rare, should be considered in young patients with cryptogenic or recurrent ischemic stroke, particularly when initial investigations fail to identify a clear etiology. Careful radiological review of imaging studies is essential for accurate diagnosis.

P09
COASY PROTEIN-ASSOCIATED NEURODEGENERATION: EARLY NEUROIMAGING INSIGHTS

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Introduction: Neurodegeneration with brain iron accumulation (NBIA) syndromes are rare genetic disorders marked by progressive movement abnormalities and iron deposition within the basal ganglia. COASY protein-associated neurodegeneration (CoPAN) is an ultra-rare NBIA subtype caused by mutations in the COASY gene, which disrupt the final steps of coenzyme A (CoA) biosynthesis.

Methods: We report a rare case of CoPAN, diagnosed at our institution after newborn screening revealed secondary alterations in acylcarnitine profiles.

Results: A female neonate was referred for evaluation of possible CPT1 deficiency following altered newborn screening. Neurological examination revealed mild pyramidal signs in the lower limbs. Brain MRI performed at 4 months of age revealed bilateral and symmetric signal abnormalities involving the putamina, caudate nuclei, and thalami. These regions exhibited hyperintensity on T2- and FLAIR-weighted images (WI), hypointensity on T1WI, and pronounced diffusion restriction. Genetic testing identified two novel, likely pathogenic COASY variants (c.1403_1404dup/p.Ile469* and c.1495C>A/p.Arg499Ser), establishing the diagnosis of CoPAN. Management included riboflavin, pantothenic acid, and a trial of deferiprone for iron chelation. Follow-up MRI at 3 years showed persistent T2/FLAIR hyperintensity in the basal ganglia, less tumefactive, while diffusion restriction remained evident. T2-weighted gradient echo images revealed new hypointensities in the globus pallidus, reflecting the onset of iron deposition. The patient remains clinically stable, under ongoing multidisciplinary care.

Discussion/conclusion: Unlike other NBIA forms where early iron accumulation in the globus pallidus predominates, CoPAN is initially marked by signal changes in the caudate, putamen, and thalami. These early alterations precede pallidal iron deposition, highlighting a specific imaging signature for CoPAN in the early disease course. Early molecular diagnosis is essential for targeted management.

P10
A CURIOUS HIDEOUT: SACRAL METASTASIS OF POSTERIOR FOSSA EPENDYMOMA WITHIN A TARLOV CYST

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Background: Ependymomas are rare glial tumors of the central nervous system, most frequently arising in the posterior fossa in adults. Metastatic spread via cerebrospinal fluid (CSF) pathways is a recognized phenomenon, and although infiltration of a pre-existing Tarlov cyst has been reported, such presentations remain exceedingly uncommon.

Case Presentation: A 64-year-old woman, with a history of WHO grade 3 posterior fossa ependymoma resection and adjuvant radiotherapy in 2012, remained neurologically stable for over a decade, except for mild gait imbalance. Surveillance neuroaxis MRI showed no recurrence, with incidental stable sacral Tarlov cysts. In late 2024, she developed progressive low back pain radiating to the left lower limb.

Neuroimaging Findings: Neuroaxis MRI excluded cranial recurrence but revealed a left-sided sacral extramedullary, extrathecal mass spanning S1–S2 (23 mm), with mixed solid and cystic-necrotic components and heterogeneous gadolinium enhancement—suggestive of metastatic ependymoma. A smaller intradural nodule (5 mm) was also noted. Additionally, a right paramedian Tarlov cyst displayed focal low T2 signal areas without clear enhancement, raising suspicion for tumor infiltration given the clinical context. The patient underwent partial L5 laminectomy, L5–S1 flavectomy, and posterior sacral laminotomy (S1–S2), achieving gross total resection of a friable, hemorrhagic lesion.

Histopathology: Microscopy revealed a glial neoplasm with rosette and pseudorosette architecture, occasional papillary areas, increased cellularity, focal high mitotic index, and no necrosis. Immunohistochemistry showed GFAP positivity, SOX10 negativity, and preserved H3K27me3 nuclear staining, confirming metastatic ependymoma (WHO grade 3).

Conclusion: This case illustrates a rare manifestation of metastatic posterior fossa ependymoma involving a pre-existing Tarlov cyst. Awareness of this atypical route of spread is important to avoid underestimating incidental cystic lesions during long-term imaging follow-up in patients with a history of ependymoma.

P11
EARLY TRIGEMINAL TRACT INVOLVEMENT IN A CASE OF RHOMBENCEPHALITIS SECONDARY TO LISTERIA MONOCYTOGENES

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Introduction: Listeria monocytogenes is a foodborne pathogen with a strong affinity for the central nervous system (CNS), particularly in immunocompromised patients, and a marked predilection for the brainstem. It can cause a spectrum of infections, including meningitis, rhombencephalitis and brain abscesses.

Methods: Retrospective review of a clinical case.

Results A 73-year-old woman with a recent history of treated synchronous lung adenocarcinomas presented with 4 days of headache, nausea, vomiting, fever, abdominal pain, diplopia, and left-sided gait imbalance. Brain MRI showed contrast enhancement of the left trigeminal nerve and a tubular lesion with peripheral enhancement and central diffusion restriction in the left posterolateral pons, suggesting an infectious abscess involving the trigeminal nuclei. Cerebrospinal fluid (CSF) analysis revealed 106 leukocytes (54% polymorphonuclear leukocytes) and blood cultures were negative. The patient was admitted to the Intensive Care Unit and started on empirical ceftriaxone, metronidazole and vancomycin. Following clinical deterioration, repeat MRI demonstrated lesion progression with caudal extension and contralateral spread, consistent with cerebritis and multiple abscesses within the trigeminal nuclei territory. Treatment was expanded to include ampicillin and ganciclovir. CSF PCR confirmed Listeria monocytogenes, prompting addition of gentamicin. Clinical improvement on neurological reassessment was corroborated by follow-up MRI. Completion of a 45-day antibiotic regimen was planned.

Discussion: The exact mechanism of brainstem invasion in CNS listeriosis remains unclear. In this case, early involvement of the trigeminal nerve was evident, with MRI showing contrast enhancement of its cisternal segment extending into the cerebellopontine angle and spreading along the trigeminal sensory tracts into the pons and medulla. These findings support the hypothesis that retrograde intra-axonal transport along the trigeminal nerve may be a pathway for Listeria monocytogenes to invade the CNS.

Conclusion: Accurate interpretation of brain MRI findings associated with CNS Listerosis proves fundamental to expedite targeted antibiotherapy.

P12
INTRAMEDULLARY SPINAL METASTASIS IN A PATIENT WITH LUNG ADENOCARCINOMA

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Introduction: Intramedullary spinal metastases are rare and usually occur in the setting of widespread metastatic disease. Approximately 50% originate from lung cancer, although breast, renal, lymphoma and melanoma primaries are also seen. Tumour spread may occur via hematogenous dissemination, Virchow-Robin spaces or direct leptomeningeal extension.

Methods: Retrospective review of a clinical case.

Results: A 57-year-old man with a 3-year history of metastatic lung adenocarcinoma (bone, liver and brain involvement) presented with posterior cervical pain, headache and urinary retention. Examination revealed right-sided motor deficits and gait imbalance. Cervical MRI showed an oval intramedullary lesion at C5 level with well-defined margins, T1 hypointensity, T2/T2-STIR hyperintensity, small cystic-necrotic foci and intense homogeneous enhancement with peripheral rim avidity. The lesion caused cord expansion with extensive perilesional edema and adjacent, extensive, leptomeningeal enhancement, consistent with intramedullary metastasis and meningeal carcinomatosis. The patient was admitted for palliative radiotherapy, given surgery was not indicated, and passed away 15 days later.

Discussion: Patients with intramedullary spinal metastases typically present with pain and motor-sensory deficits. Contrast-enhanced MRI is the diagnostic modality of choice and helps distinguish metastases from primary spinal cord tumors. Metastatic lesions often demonstrate a peripheral zone of increased enhancement (rim sign) and associated leptomeningeal involvement. Treatment usually consists of fractionated radiotherapy.

Conclusion: Contrast-enhanced MRI plays a pivotal role in diagnosing intramedullary spinal metastases, delineating lesion characteristics and distinguishing them from primary spinal cord neoplasms. Despite guiding therapeutic decisions, the prognosis of these lesions remains poor.

P13
DECODING CONGENITAL STRABISMUS: MRI FINDINGS IN DUANE SYNDROME

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Introduction: Duane syndrome (DS) is a rare cause of congenital non-progressive strabismus secondary to hypoplasia/agenesis of the abducens nerve (CN VI) and consequent lateral rectus muscle abnormal innervation. It is classified into three types, of which type I is the most prevalent (75-80% of patients), being characterized by limited or absent abduction and induced ptosis on adduction. Most cases are sporadic (90%) although familial forms have been described.

Methods: Report of clinical and imaging findings of two pediatric cases of DS.

Results: A 17-month-old female and a 5-month-old male presented with unilateral limited abduction of the eye. Magnetic Resonance Imaging (MRI) of the brain and orbits revealed absence of the CN VI cisternal segment in both cases, with ipsilateral facial colliculi hypoplasia in one of the patients. Extraocular muscles appeared symmetrical, with no evidence of hypoplasia or atrophy. Clinical and imaging evaluations didn't depict additional features suggestive of syndromic conditions.

Discussion and conclusion: These cases highlight the pivotal role of high-resolution imaging in detecting congenital CN VI abnormalities, distinguishing DS from other causes of congenital strabismus, and ruling out associated structural anomalies.
The lack of evident extraocular muscle atrophy or hypoplasia in these two patients may be explained by their young age, which aligns with early-stage presentations of DS and underscores the importance of clinical and imaging surveillance, as progressive muscle changes may become apparent during follow-up. Early diagnosis is crucial for initiating timely therapy and preventing secondary complications, while follow-up is essential to monitor visual and ocular motor development.

P14
AUTOIMMUNE GLIAL FIBRILLARY ACIDIC PROTEIN ASTROCYTOPATHY PRESENTING AS SEVERE ENCEPHALOMYELITIS: A CASE REPORT

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Introduction: Autoimmune glial fibrillary acidic protein (GFAP) astrocytopathy is a recently recognized cause of meningoencephalomyelitis. It may mimic infectious etiologies and requires a high index of suspicion for diagnosis.

Case report: A 58-year-old previously autonomous man with a history of traumatic brain injury, presented with fever and urinary retention, initially treated as acute prostatitis. In the following days, he developed progressive confusion and altered mental status. Cerebrospinal fluid (CSF) analysis revealed lymphocytic pleocytosis and hyperproteinorrhachia, with negative microbiological studies. Brain MRI showed only post-traumatic sequelae. Due to worsening consciousness, acyclovir, ampicillin, and dexamethasone were initiated, but the patient deteriorated, requiring intubation. EEG showed no epileptic activity, and intravenous immunoglobulins were administered, with slow recovery of consciousness and brainstem reflexes. Upon sedation withdrawal, a new flaccid tetraparesis was noted, prompting spinal MRI, which revealed a longitudinally extensive lesion predominantly involving the anterior gray matter, extending from the medulla oblongata to the conus medullaris, raising the possibility of viral versus autoimmune inflammatory etiology. Follow-up MRI showed linear perivascular enhancement in the centrum semiovale and ependymal enhancement along the lateral ventricles. Mild enhancement was also seen at the conus medullaris and cauda equina roots, reinforcing the aforementioned hypotheses. Despite ongoing treatment, neurological recovery remained limited.
A repeat MRI months later demonstrated bilateral and symmetric periventricular T2/FLAIR hyperintensities, associated with a persistent perivascular and periependymal enhancement pattern of the lateral ventricles, findings highly suggestive of autoimmune glial fibrillary acidic protein astrocytopathy. Anti-GFAP antibodies were subsequently detected in CSF, confirming the diagnosis and immunosuppressive therapy was initiated.

Conclusion: This case highlights the diagnostic challenge of GFAP astrocytopathy, which can initially mimic viral encephalomyelitis. Recognition of its characteristic MRI findings, particularly perivascular and periependymal enhancement, and antibody confirmation are crucial, as early immunotherapy may improve outcome in this severe but potentially reversible condition.

P15
CONTRAST-INDUCED ENCEPHALOPATHY: WHEN TO SUSPECT?

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Introduction: Contrast-induced encephalopathy (CIE) is a rare but usually reversible neurological complication of iodinated contrast. It may mimic stroke recurrence or hemorrhage, especially in patients with renal failure. We report a case of CIE after mechanical thrombectomy for posterior circulation stroke in a patient on chronic hemodialysis.

Methods: An 80-year-old man with hypertension, diabetes, dyslipidaemia and end-stage renal disease (GFR < 10 mL/min/1.73 m², on hemodialysis) presented with right hemianopia and language disturbance (NIHSS 6). Non-contrast CT showed an acute left hippocampal infarct, and CT angiography revealed left posterior cerebral artery (P1) occlusion. As he was outside the thrombolysis window, mechanical thrombectomy was performed under local anaesthesia, achieving complete reperfusion (TICI 3) after a single pass.

Results: After initial improvement, he developed psychomotor agitation and reduced responsiveness. Control CT revealed asymmetric parieto-occipital and cerebellar hyperdensities with subarachnoid contrast retention, suggesting leakage through a disrupted blood–brain barrier and delayed clearance due to renal failure. EEG showed diffuse slowing and parieto-temporal epileptiform activity, leading to antiepileptic therapy. Following hemodialysis and supportive care, cognition improved markedly, with only mild visual deficit at discharge.

Discussion: CIE results from transient blood–brain barrier disruption and cortical or subarachnoid contrast leakage. Typical posterior hyperdensities help distinguish it from hemorrhage or infarct extension. Dual-energy CT can further separate iodine from blood, improving diagnostic confidence.

Conclusion: CIE should be suspected in acute neurological deterioration after contrast exposure, particularly in renal failure. Early recognition and supportive management are key to recovery and to avoiding unnecessary interventions.

P16

FLOW DIVERTER TREATMENT OF AN OPHTHALMIC SEGMENT INTERNAL CAROTID ARTERY PSEUDOANEURYSM: CONE-BEAM CT EVIDENCE OF ULTRA-EARLY ANEURYSMAL

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Introduction: Pseudoaneurysms of the ophthalmic segment of the internal carotid artery (ICA) are rare and potentially life-threatening lesions, often arising after surgical manipulation in the skull base region. Flow diverters offer a reconstructive endovascular approach that preserves the parent vessel while promoting intra-aneurysmal thrombosis through flow redirection. Flat-detector cone-beam CT (CBCT) enables high-resolution intra-procedural assessment of device apposition and aneurysm morphology.

Methods: We report the case of a 50-year-old man who developed an asymptomatic pseudoaneurysm of the right ICA ophthalmic segment following resection of a primary craniopharyngioma. Endovascular reconstruction was performed using two telescoped flow diverter stents. Intra-procedural CBCT angiography with diluted intra-arterial contrast was used to assess device wall apposition and immediate flow modification within the aneurysm.

Results: The flow diverters were successfully deployed with complete wall apposition and immediate contrast stagnation observed on final digital subtraction angiography. CBCT angiography demonstrated two rounded hypoattenuating foci within the pseudoaneurysm sac, compatible with ultra-early intra-aneurysmal thrombosis. The patient was started on prophylactic oral corticosteroids to mitigate potential inflammatory response. A non-contrast CT obtained 24 hours later showed homogeneous hyperdensity of the pseudoaneurysm, confirming acute thrombosis. The patient remained asymptomatic, and follow-up imaging is ongoing.

Discussion: CBCT angiography proved critical for confirming optimal device placement and detecting early intra-aneurysmal changes, increasing procedural safety and diagnostic confidence. Visualization of ultra-early thrombosis within minutes of flow diversion underscores the immediate hemodynamic impact of these devices.

Conclusion: This case illustrates the value of intra-procedural CBCT not only for verifying device apposition but also for recognizing ultra-early aneurysmal thrombosis, emphasizing its importance as a complementary imaging tool in complex endovascular treatment of ICA pseudoaneurysms.

P17
DIAGNOSTIC PITFALL: A CASE OF REVERSIBLE PERI-ICTAL MRI FINDINGS MIMICKING MENINGOENCEPHALITIS

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Introduction: Epileptic seizures are frequent neurological emergencies that lead to transient structural and metabolic cerebral alterations. MRI often reveals peri-ictal abnormalities which may mimic other acute pathologies, making their recognition essential for accurate diagnosis and management.

Clinical case: 66-year-old woman with structural epilepsy secondary to frontal right lesion following a ruptured AVM, presented with confusion, dysarthria, left hemiparesis and fever, 48 hours after a diagnostic cerebral angiography. Laboratory work-up, CSF analysis, brain-CT and CT-angiography were unremarkable. Electroencephalogram revealed right frontal and fronto-temporal epileptiform activity. Brain MRI demonstrated leptomeningeal and pachymeningeal enhancement involving the right fronto-parieto-temporo-occipital regions, thalamic pulvinar restricted diffusion and T2/FLAIR hyperintensity. SWI further showed slight dilatation of right cortical middle cerebral artery branches. These findings raised suspicion for meningoencephalitis and acyclovir, ceftriaxone and ampicillin were initiated, while antiepileptic therapy was optimized. The patient's clinical status improved rapidly, with full neurological recovery. Meanwhile, extensive microbiological investigation, including HSV was negative. Follow-up MRI (day-17) showed resolution of cortical and meningeal enhancement, caliber reduction of cortical arterial branches and reduction of pulvinar T2/FLAIR hyperintensity.

Discussion: The most frequently reported peri-ictal imaging patterns include T2/FLAIR hyperintensities and increased restricted diffusion, typically involving the mesial temporal lobes and neocortex, while thalamus and basal ganglia are less frequently involved. Other features include pachy- or leptomeningeal enhancement and arterial dilatation overlying the areas of the ictal cortex. In this case, the transient and reversible nature of these findings, temporal relationship with seizures and absence of laboratory evidence for infection suggests peri-ictal changes, rather than meningoencephalitis.

Conclusion: The initial clinical presentation, with fever and focal deficits alongside alarming MRI findings, exemplifies a diagnostic pitfall where infectious mimicry necessitates broad-spectrum treatment until microbiological data provide clarity. Peri-ictal MRI changes are key in the differential diagnosis and the reversibility of these findings is crucial to confirm the peri-ictal nature of the event.

P18

CAVERNOUS SINUS SYNDROME AS THE INITIAL MANIFESTATION OF BURKITT LYMPHOMA: A NEUROIMAGING DIAGNOSTIC CHALLENGE

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Introduction: Cavernous sinus lymphoma represents a rare presentation of central nervous system (CNS) lymphoproliferative disease that can mimic vascular, infectious, or inflammatory conditions. Differentiation relies on clinical and neuroimaging findings, particularly in immunosuppressed patients. Neuroimaging diagnosis becomes especially challenging when imaging features deviate from the typical T2 iso to hypointensity relative to gray matter and strong contrast enhancement commonly described in CNS lymphomas.

Methods: We report a case of cavernous sinus lymphoma, diagnosed at our institution, initially mimicking cavernous sinus thrombosis.

Results: A 37-year-old man with seropositive rheumatoid arthritis under long-term immunosuppression (upadacitinib) and history of latent tuberculosis treated with isoniazid presented with acute binocular diplopia, attributed to right abducens nerve palsy. On Initial CT and CT venography right cavernous sinus thrombosis was suspected. MRI confirmed an apparent filling defect within the right cavernous sinus, reinforcing the vascular hypothesis. Within weeks the patient developed complete palsy of the right oculomotor, trochlear, and abducens nerves, along with ophthalmic (V1) hypoesthesia and systemic "B" symptoms (weight loss and night sweats). Follow up MRI one month later revealed a rapidly enlarging extra-axial parasellar lesion infiltrating the right cavernous sinus, showing T2 hypointensity, restricted diffusion, and mild homogeneous enhancement, consistent with a highly cellular infiltrative tumor, most likely lymphoma. The lesion showed no necrosis or bone erosion. Whole body FDG-PET/CT revealed extensive hypermetabolic lymphomatous disease (nodal, splenic, peritoneal, osseous, subcutaneous, and cavernous sinus). Bone marrow histopathology and immunophenotyping confirmed Burkitt lymphoma with MYC rearrangement (8q24).

Discussion and conclusion: This case illustrates an atypical imaging presentation of Burkitt lymphoma, presenting as cavernous sinus syndrome and initially mimicking cavernous sinus thrombosis. The combination of T2 hypointensity and diffusion restriction reflects high cellularity with low free water content, hallmarks of lymphomatous infiltration. Recognizing this pattern is essential to prevent diagnostic delay, particularly in immunosuppressed patients.

P19
A MOVING TARGET: MULTIFOCAL INTRAOSSEOUS HEMANGIOMAS MIMICKING METASTATIC DISEASE

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Introduction: Intraosseous hemangiomas are benign vascular bone tumors most frequently found in the vertebrae. Vertebral hemangiomas are common incidental findings, typically confined to the vertebral body and characterized by the classic "polka-dot" or "corduroy" imaging patterns. They are usually asymptomatic and lack significant soft-tissue components. In contrast, atypical or aggressive variants may extend to the posterior elements, show cortical destruction, or develop large extraosseous soft-tissue components, closely mimicking metastatic disease. Multifocal intraosseous hemangiomas involving both cranial and spinal sites are exceptionally uncommon, posing a diagnostic challenge.

Methods: We report the case of a 68-year-old woman with chronic cervical pain and intermittent headaches, referred for evaluation of suspected bone metastases. Neurological examination was unremarkable. Brain and spine MRI and CT, as well as whole-body CT, were performed to assess the extent of bone involvement. Serial imaging studies and histological analysis of one of the lesions were used to reach a definitive diagnosis.

Results: Imaging revealed an extensive osteolytic lesion in the left temporal bone with intracranial extension and obliteration of the ipsilateral sigmoid sinus. Additional lesions were identified in the left lateral mass of C1 and in the right parietal bone. These lesions demonstrated contrast enhancement and soft-tissue components, initially suggesting metastatic disease. Excisional biopsy of the parietal lesion revealed benign fibrovascular tissue consistent with intraosseous hemangioma. During follow-up, some lesions regressed spontaneously while others appeared, particularly in dorsal and lombar vertebrae, showing the same characteristics as the previous ones.

Discussion and Conclusion: Although vertebral hemangiomas are common, multifocal presentations with posterior element involvement, cortical destruction, and soft-tissue extension are rare. Such atypical features may closely simulate metastatic disease and complicate clinical management. Recognition of these unusual imaging patterns, combined with histopathological confirmation, is essential for establishing the correct diagnosis. Awareness of this entity can prevent unnecessary oncologic interventions and guide appropriate follow-up, emphasizing the importance of considering multifocal intraosseous hemangiomas in the differential diagnosis of multifocal osteolytic lesions.

P20
THE ROLE OF MYELO-CT IN DIFFERENTIATING INTRAOSSEOUS MENINGEAL CYST FROM OSTEOLYTIC VERTEBRAL LESIONS

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Introduction: Spinal meningeal cysts are cerebrospinal fluid-filled sacs arising from the dura or arachnoid, found in the epidural, intradural-extramedullary, or perineural locations. In contrast, intraosseous meningeal cysts (eroding into or located within the vertebral body) are rare. Cystic bone lesions have a broad differential, and subarachnoid communication is often not evident. Recognizing an intraosseous variant is critical because it may mimic lytic tumors or metastases, and requires specific imaging strategies for confirmation.

Methods: A 66-year-old woman underwent lumbar CT for evaluation of mechanical low back pain, which revealed a rounded osteolytic lesion in the posterolateral right aspect of the L5 vertebral body with posterior cortical disruption. MRI and subsequent myelography with post-contrast CT (myelo-CT) were performed.

Results: MRI revealed a round lesion with homogeneous T2 STIR hyperintensity, low T1 signal (similar to CSF), and no post-contrast enhancement. The lesion extended slightly beyond the posterior wall into the right neural foramen, possibly impinging the L5 root, without evidence of adjacent marrow edema or vertebral deformation. Myelo-CT demonstrated homogeneous opacification of the lesion following intrathecal contrast administration, confirming direct communication with the subarachnoid space and establishing the diagnosis of an intraosseous meningeal (arachnoid) cyst rather than a solid osteolytic lesion. Additional smaller periradicular cysts were noted at S2.

Discussion and Conclusion: While spinal meningeal or arachnoid cysts are well described in the literature, intraosseous presentation is not typical. The identification of an intraosseous meningeal cyst should prompt careful imaging evaluation to exclude more common entities such as bone tumors or metastases. Myelo-CT plays a pivotal role in proving communication with CSF space, as differentiating this rare variant from lytic bone pathologies is essential to avoid misdiagnosis and unnecessary invasive intervention

P21
SIMPLIFYING PEDIATRIC CT-DACRYOCYSTOGRAPHY: DIAGNOSTIC PERFORMANCE OF DIRECT OCULAR INSTILLATION OF IODINATED CONTRAST

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Introduction: Conventional CT dacryocystography (CT-DCG) can be performed via punctal cannulation or direct ocular instillation of diluted iodinated contrast. Cannulation is technically demanding and may require sedation, particularly in children. Instillation simplifies the procedure, increases tolerability, and reduces risks, yet pediatric data remain limited.

Methods: We retrospectively reviewed pediatric patients referred for primary nasolacrimal outflow obstruction or postsurgical recurrent epiphora between April 2021 and June 2025. Most CT-DCG were performed on a photon-counting CT scanner (Siemens Naeotom Alpha), covering the orbits and paranasal sinuses. Diluted iodinated contrast (ioméron 350 or 400, 50%) was instilled directly into the conjunctival sac or injected via catheter. Image quality of the lacrimal system (LS) was graded as good, moderate, or poor.

Results: Twenty-seven children underwent 30 examinations (60 LS total: 2 via catheter, 58 via instillation). Image quality was rated as good in 45 LS (75%), moderate in 7 (12%), and poor in 8 (13%) [due to suboptimal opacification (n=9) or motion artifacts (n=6)]. Instillation was well tolerated with no adverse effects. Fifteen patients had prior lacrimal surgery. Excluding two with normal CT findings and one with only irregular opacification, all remaining scans showed at least partial non-opacification of the LS on one or both sides. Bony canal stenosis was detected in five patients, dilation of the lacrimal pathway in fifteen, and irregular contrast distribution in two. Post-scan, fifteen patients underwent surgery: three dacryocystorhinostomies following detection of bony stenosis, four without evident bony stenosis (possibly last-resort procedures), one deemed unnecessary due to presumed chronic dry-eye; no post-scan surgical records were available for the remaining patients.

Conclusion: Direct ocular instillation of diluted iodinated contrast is a feasible, safe, and well-tolerated technique for pediatric CT-DCG. It provides diagnostic-quality images that identify bony canal stenosis, obstruction level, and associated dilatation, thereby supporting surgical planning in nasolacrimal obstruction.

P22
FROM SUBJECTIVITY TO PRECISION: VALIDATION OF THE MTA SCALE THROUGH AUTOMATIC VOLUMETRY

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Introduction: The MTA (Medial Temporal Atrophy) scale is used in the imaging assessment of patients with dementia syndrome. Its advantage is the accessibility of a semi-quantitative visual assessment, but its subjectivity undermines the perception of reliability by the reporting neuroradiologist, particularly during medical residency, leading to its abandonment. In this study, we evaluated the relationship between the MTA scale and hippocampal volumetry and the agreement between the classification performed by experienced neuroradiologists and a 2nd-year specialty intern.

Methods: Fifty-one patients referred for CE-MRI due to dementia syndrome between January 1, 2025, and August 15, 2025, were included. Their reports included the MTA scale and were performed by neuroradiology specialists or equivalent professionals. A second-year intern blindly reclassified each of the exams. Hippocampal volumes were calculated automatically on the VolBrain platform. The representativeness of the MTA in assessing hippocampal volume and hippocampal asymmetry (Spearman's correlation and linear regression) and interobserver agreement using the mean MTA of the two hippocampi (intraclass correlation) were evaluated.

Results: A strong correlation ($\rho = 0.6$) was demonstrated between automatic volumetry and the MTA scale, whether evaluated by the experienced neuroradiologist or the second-year intern, with excellent agreement between these observers (ICC = 0.95). Analyzing the hemispheres independently, it was found that for each point of increase on the MTA scale, there is an average reduction of 410 mm3 in the right hippocampus and 302 mm3 in the left hippocampus, controlling for age, sex, and reporter, with none of these covariates contributing significantly to the variation. Interestingly, the perception of asymmetry does not seem to be consistent between semi-quantitative analysis and volumetry.

Discussion and Conclusion: The correlation between automatic volumetry and semi-quantitative visual analysis reinforces the reliability of the MTA scale and encourages its inclusion in the CE-MRI report in a dementia context, both by experienced neuroradiologists and those in the early stages of neuroradiology training.

P23
"FOLLOW THE NERVE": TIPS, TRICKS, AND TRAPS IN PERINEURAL TUMOR

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Introduction: Perineural spread (PNS) is a distinct pathway of local invasion in head and neck cancers, characterized by tumor extension along cranial nerves, most commonly the trigeminal and facial nerves. It is most frequently associated with carcinomas arising from minor or major salivary glands, as well as mucosal or cutaneous squamous cell carcinoma. Early detection is challenging due to subtle clinical and radiologic findings, and missed cases may result in sub-optimal treatment and increased risk of recurrence.

Methods: We reviewed several cases of perineural tumor spread from the imaging database of our tertiary referral centre (ULS Coimbra), complemented by an updated literature review. The goal was to highlight practical imaging clues, key anatomical landmarks, and common pitfalls that can help improve recognition of PNS.

Results: Imaging plays a central role in the detection and staging of PNS. High-resolution MRI, including 3D imaging, is the modality of choice, due to high sensitivity for detecting signs such as nerve enlargement, abnormal enhancement, and loss of surrounding fat. CT can demonstrate foraminal widening and bony changes, while FDG-PET/CT is a valuable adjunct for identifying abnormal linear uptake along nerve pathways and denervation changes in associated musculature. Key indirect signs include muscle denervation, obliteration of fat pads, and foraminal widening or destruction. Diagnostic pitfalls include physiologic ganglionic enhancement, venous plexus asymmetry, and skip lesions.

Conclusion: Recognising PNS goes beyond anatomical knowledge, it requires attention to detail and a systematic way of looking at images. Awareness of subtle signs and potential mimics is essential to improve diagnostic confidence. Every case reinforces the importance of slowing down and truly following the nerve.

P24
COGNARD TYPE IV DURAL ARTERIOVENOUS FISTULA: IMAGING DIAGNOSIS AND ENDOVASCULAR MANAGEMENT

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Introduction: Dural arteriovenous fistulas (dAVFs) are abnormal arteriovenous shunts involving dural vessels and account for 10–15% of all cerebral vascular malformations. Most dAVFs are acquired, typically following dural venous thrombosis, trauma, or previous craniotomy, although idiopathic cases have been reported. The clinical course and risk of hemorrhage largely depend on the pattern of venous drainage, with cortical venous drainage associated with a more aggressive presentation. The Borden and Cognard classifications are widely used to stratify dAVF aggressiveness and guide treatment decisions.

Case Report: We report the case of a 71-year-old brazilian female with a past medical history of dyslipidemia, treated with a statin. She presented with sudden-onset left-sided weakness. On admission to the emergency department, the patient's blood pressure was 187/82 mmHg. Neurological examination revealed left-sided hemiparesis (grade 4) with no additional deficits. Non-contrast CT and CT angiography demonstrated a right superior paramedian frontal intraparenchymal hemorrhage, associated with a prominent venous structure and a venous aneurysm. For further evaluation, diagnostic cerebral angiography was performed, revealing a dural arteriovenous fistula in the right paramedian frontoparietal high convexity. The fistula was supplied by frontal branches of the middle meningeal arteries and drained into a markedly dilated cortical vein with a venous aneurysm, which subsequently drained into the superior sagittal sinus (Cognard type IV). After a multidisciplinary discussion with the neurosurgery team, endovascular embolization of the fistula was performed. Through the right meningeal artery, the liquid embolic agent Onyx was used to embolize the fistulous point, with complete exclusion of the fistula.

Conclusion: This case underscores the importance of early recognition and timely treatment of dural arteriovenous fistulas to prevent recurrent intracerebral hemorrhage.

P25
CHRONIC RECURRENT MULTIFOCAL OSTEOMYELITIS — A CASE REPORT

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Introduction: Chronic Recurrent Multifocal Osteomyelitis is a rare idiopathic autoinflammatory disorder that mainly affects children and young adolescents. It can be asymptomatic or, when symptomatic, patients typically report dull pain and swelling at the affected site. Local skin changes include tenderness and and erythema. The metaphyses of long bones are most frequently involved, whereas solitary involvement of the clavicle or mandible is uncommon.

Case Report: We report the case of a 19-year-old male presenting with left masseteric pain and restricted mouth opening. Physical examination revealed facial asymmetry with left masseteric hypertrophy and tenderness on palpation. Orthopantomography demonstrated apparent radiolucent lesions in the left hemimandible. Maxillofacial CT revealed diffuse density changes of the left hemimandible, with a heterogeneous "ground-glass" and predominantly sclerotic appearance, sparing the condyle, and associated with bone expansion. A biopsy was performed to aid diagnosis, showing no significant pathological alterations. Subsequent facial MRI demonstrated expansion of the left hemimandible with heterogeneous signal intensity, along with inflammatory changes in the adjacent soft tissues near the mandibular angle, involving the masseter muscle and subcutaneous fat. The patient received multiple courses of analgesics and antibiotics without improvement. Corticosteroid therapy was then initiated, resulting in both symptomatic relief and imaging improvement.

Discussion: The clinical and imaging findings, along with the favorable response to corticosteroid therapy, are consistent with chronic recurrent multifocal osteomyelitis (CRMO). This case underscores the importance of considering non-infectious differential diagnoses in patients with persistent bone pain and radiologic features suggestive of osteomyelitis. The positive response to anti-inflammatory treatment supports the autoinflammatory nature of the disease and highlights the need for a multidisciplinary approach, involving radiology, rheumatology, and maxillofacial surgery, for accurate diagnosis and optimal management.

P26
THE IMAGING UNIVERSE OF PARAVERTEBRAL MASSES

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Introduction: The paravertebral space is a complex anatomical region located around the vertebral column and extending from the skull base to the sacrum. This region comprises multiple structures, including muscles, fasciae and aponeuroses, nerves, venous plexuses, arteries, and lymphatic vessels. Characterization of these components is essential to understand the morphological complexity of this space and the diversity of masses that may arise within it. The paravertebral space may be affected by primary pathology, originating from its own structures (such as neurogenic or muscular tumours), or by secondary pathology, resulting from direct invasion of adjacent tissues or compartments (such as the mediastinum or retroperitoneum), or from hematogenous or lymphatic dissemination, particularly in the setting of neoplastic or systemic infectious disease.

Methods/Results/Discussion: The aim of this work is to provide an imaging-based review of the differential diagnosis of paravertebral masses. Imaging evaluation of paravertebral masses enables orientation of the differential diagnosis by allowing precise localization and morphological characterization. In this context, both primary lesions, involving the various paravertebral structures, and secondary lesions are illustrated and described, including schwannomas, lymphomas, extramedullary hematopoiesis, retroperitoneal fibrosis, metastases, and infectious collections, among others.

Conclusion: The spectrum of paravertebral masses is broad and reflects the anatomical complexity of this compartment. Knowledge of the regional anatomy, the main pathological entities, and their imaging features is essential for a targeted and well-founded diagnostic interpretation. The radiologist plays a central role in the multidisciplinary management of these pathologies, contributing decisively to an accurate diagnosis and to the definition of tailored therapeutic strategies.

P27

LOCALIZED T2/FLAIR SUBCORTICAL HYPOINTENSITY IN FOCAL STATUS EPILEPTICUS WITH NON-KETOTIC HYPERGLYCAEMIA: A CASE REPORT

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Introduction: Seizures associated with non-ketotic hyperglycaemia (NKH) may present with brain MRI findings such as cortical T2/FLAIR hyperintensity, diffusion restriction and, more rarely, subcortical hypointensity. While these have been described in single episodes, imaging recurrence of the latter has not been clearly documented.

Methods: Retrospective review of a clinical case.

Results: A 68-year-old man with poorly controlled type 2 diabetes mellitus (HbA1c 11,6%) presented with focal left motor seizures and complex visual hallucinations, culminating in focal status epilepticus. Admission glucose was 357 mg/dL, without ketosis. Brain MRI demonstrated right hippocampal, amygdala and parietal cortex T2/FLAIR hyperintensity and diffusion restriction, as well as marked right temporo-occipital subcortical T2/FLAIR hypointensity without diffusion restriction and corticopial enhancement, compatible with ictal and post-ictal changes.
The patient had significant clinical improvement with medical treatment and was discharged home. A retrospective review of an admission ten years prior due to similar status epilepticus and coincidental hyperglycaemia (476 mg/dL, HcA1c 11,2%) revealed similar, though subtler, T2/FLAIR hypointensity in the same area. The patient had recovered completely and remained seizure-free until the current episode.

Discussion: This case uniquely demonstrates two NKH-related focal status epilepticus with identical right temporo-occipital subcortical T2/FLAIR hypointensity, an underreported finding reflecting ictal and peri-ictal findings. The T2/FLAIR hypointensity may reflect metabolic dysfunction, intracellular dehydration, or accumulation of paramagnetic substances, supporting the hypothesis of region-specific metabolic vulnerability.

Conclusion: T2/FLAIR subcortical hypointensity is related to post-ictal changes and, although not specific to any aetiology, is frequently associated with NKH-related status epilepticus. Clinical and imaging recurrence may reflect regional metabolic–structural vulnerability, underscoring the importance of sustained glycaemic control.

P28
A MOLD TOO FAR — A CASE OF HEARING AID IMPRESSION MATERIAL MIMICKING MALIGNANT OTITIS EXTERNA

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Introduction: Space-occupying lesions in the middle ear and external auditory canal have a wide differential diagnosis, with imaging being an essential tool for diagnosis as well as surgical planning. We present a case where an unusual radiological appearance pointed to the origin of a mass of hitherto unknown etiology.

Case Report: A 65 year old man was admitted to our centre from an outside hospital after developing, over the course of several months, right-sided otorrhea, progressively worsening hearing loss and ipsilateral peripheral facial palsy (House-Brackmann grade VI). Temporal bone CT showed right-side external auditory canal bony erosions, with inflammatory changes extending into the masticator and parapharyngeal spaces, as well as opacified tympanic and mastoid cavities, with partial erosion of the ossicular chain. Originally interpreted as malignant otitis externa with a space-occupying lesion in the middle ear, possibly cholesteatoma. Biopsy results revealed non-specific detritus and inflammatory cells. On imaging reappraisal, the external auditory canal and middle ear were found to be filled by spontaneously hyperdense material, suggesting an exogenous nature. After further clarification, the patient reported the onset of symptoms as taking place after undergoing bilateral ear impression for hearing aids, at the end of which there had been significant difficulty in extracting the impression material from the right ear. Exploratory surgery was then performed via canal wall-down mastoidectomy and an elastic foreign body measuring 2.8 cm across was removed. Extensive ossicular chain destruction was noted, as well as a complete section of the facial nerve in its mastoid segment.

Discussion: This case highlights the importance of considering iatrogenic causes in atypical presentations of chronic otitis or otitis externa. A detailed clinical history and careful imaging review can reveal foreign-body–related pathology, preventing misdiagnosis and guiding appropriate surgical management.

P29
SOLITARY FIBROUS TUMOURS AND MENINGIOMAS: IS T1 BRIGHTER THAN THE OTHER?

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Introduction: Solitary fibrous tumours (SFT) are often included in the differential diagnosis of meningeal masses, yet they carry a significantly poorer prognosis compared to meningiomas. Recently, the value of T1-weighted (T1-WI) imaging intensity, among other parameters, has been proposed as a potential aid in distinguishing SFT from meningiomas. We performed a retrospective study in our center to explore this parameter.

Methods: We retrospectively evaluated all eligible patients with histologically-proven intracranial SFT and compared them to 14 patients with meningioma (age- and gender-matched), via measuring and comparing the mean T1-WI intensity values between both tumors.

Results: The mean T1-WI intensity of SFTs, normalized to white matter, did not significantly differ from T1-WI intensity of meningioma (SFT: 0.86 ± 0.32 vs. meningioma: 0.78 ± 0.11).

Discussion: Unlike previous reports, we did not find a statistically significant difference in the values of T1-WI intensity between SFTs and meningiomas, however the small sample size has probably widened our confidence intervals and prevented us from finding any associations. Despite these limitations, it is necessary to identify and better characterise imaging biomarkers that may assist in the diagnosis of these conditions, as their correct identification has a significant impact on prognosis.

P30
LATE SPINAL CORD HERNIATION AFTER UNSTABLE THORACIC

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Introduction: Post-traumatic spinal cord herniation is a rare but severe delayed complication of spinal trauma and surgical fixation, typically associated with dural defects that can allow progressive protrusion of the spinal cord through the dural sac. This entity may mimic recurrent or progressive myelopathy years after the initial injury and can be challenging to diagnose radiologically. We present a long-term follow-up case of thoracolumbar fracture with complex instrumentation, who developed progressive neurological decline secondary to dorsal spinal cord herniation and associated syringomyelia, demonstrated on MRI and CT myelography.

Case Report: A 28-year-old male sustained a high-energy motor vehicle accident in 2010, resulting in a burst fracture of L1 and fracture–dislocation of Th4–Th5 with associated Th6 fracture and incomplete spinal cord injury (ASIA C). Surgical management included posterior fixation from Th3–Th8 and Th12–L2 with laminectomy and dural repair at L1. The patient achieved partial neurological recovery, regaining ambulation with residual motor and sensory deficits consistent with a Brown-Séquard–like syndrome. Over the following decade, he reported progressive paraparesis and worsening sphincter dysfunction.
MRI in early 2025 demonstrated dorsal displacement of the thoracic spinal cord at Th4 with a longitudinally extensive syringomyelic cavity. CT myelography confirmed dorsal spinal cord herniation through a dural defect, with intramedullary contrast filling compatible with hydrosyringomyelia. Surgical repair with laminectomy and dural reconstruction was scheduled for November 2025.

Conclusion: This case highlights the importance of long-term imaging surveillance in patients with post-traumatic spinal cord injury and instrumentation. Spinal cord herniation should be considered in progressive myelopathy years after trauma or surgery. Combined MRI and CT myelography remain essential for diagnosis and preoperative planning, as timely surgical repair may prevent further neurological deterioration.

P31
RUPTURED ARACHNOID CYSTS IN OLDER ADULTS: A CASE REPORT AND REVIEW

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Introduction: Arachnoid cysts are extra-axial cerebrospinal fluid collections that are commonly found incidentally, rarely causing any symptoms. However, rupture of these cysts and subsequent bleeding may require medical or surgical intervention, namely if clinically significant mass effect develops. Published cases in the literature mostly concern paediatric patients. Here, wee present a case report and imaging findings of a ruptured arachnoid cyst in an older adult.

Case report: A 76-year old woman presented to the emergency department after developing confusion and disorientation with multiple recent falls. Initial CT revealed a left-sided chronic subdural hematoma as well as a spontaneous hyperdensity in the left lateral sulcus with an apparent fluid-fluid level. The patient was admitted and underwent MRI for further clarification, which revealed an arachnoid cyst in the left middle cranial fossa with dimensions of approximately 25 × 14 mm. A focal interruption of the cyst wall was noted on heavily T2-weighted sequences, allowing communication with the subdural space. Within the arachnoid cyst, acute hemorrhage was found in the posterior aspect, producing a clear fluid-fluid level. This was interpreted as a traumatic rupture of the arachnoid cyst. Focal subarachnoid haemorrhage was also present in the adjacent sulci and in the lateral sulcus, as well as a 10 mm-thick septated hematohygroma in the left cerebral convexity. The patient's condition improved during her admission and due to mild mass effect, the clinical team opted for conservative management . A follow-up CT scan showed a slight reduction of the acute hemorrhagic component and the patient was discharged home awaiting a Neurosurgery outpatient appointment.

Discussion: Ruptured arachnoid cysts draining into subdural collections are more commonly recognized as a complication of trauma in paediatric patients. However, they can also occur in older adults with subdural collections and may contribute to morbidity.

P32
A CASE OF POSSIBLE RHOMBENCEPHALITIS — RESTRICTING THE DIFFERENTIAL DIAGNOSIS

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Introduction: Brainstem lesions present well-recognized clinical and radiological diagnostic challenges. Initial CT findings are often inconclusive, and further assessment with MRI typically yields a broader differential diagnosis, where even thorough clinical and laboratory investigations may not provide a definitive answer. We present an illustrative case.

Case Report: A 76 year-old man with a history of colorectal and prostate cancer, vascular risk factors, and chronic kidney disease presented to the emergency department with a three-day history of pulsatile headache, dysarthria, diplopia, and gait imbalance. CT imaging revealed a subtle hypodensity in the superior pons and midbrain, and the patient was admitted with a presumptive diagnosis of brainstem stroke. Cardiovascular workup revealed a 50% stenosis of the basilar artery.
He became progressively more ataxic and dysarthric during hospitalization, developing bilateral upward gaze paresis, leading to further imaging.
MRI revealed two poorly marginated focal lesions in the midbrain tegmentum with low T1, high T2 signal intensity, mild FLAIR hypersignal, increased restricted diffusion, and marked enhancement after gadolinium administration. Surrounding T2/FLAIR hyperintensity involved the midbrain, pontine tegmentum and superior cerebellar peduncles.
CSF analysis — including biochemistry, microbiology, oligoclonal bands and auto-antibodies — was unremarkable. Serum immunology results were only positive for low titre Anti-MOG IgG and weakly positive Anti-GM3 IgM.
Considering the probable diagnosis of inflammatory rhombencephalitis, IV immunoglobulin was initiated on day 16. On day 19, the patient required emergent dialysis due to severe hyperkalemia. Unfortunately, he passed the following day, secondary to haemorrhage from the catheter insertion site.

Discussion: In this case, the patient's comorbidities and procedural complications further compounded an already complex clinical picture, resulting in an unfavourable outcome. The differential diagnosis and investigations primarily focused on infectious and inflammatory causes, with paraneoplastic etiology being considered less probable. A definitive diagnosis would require repeat imaging, laboratory testing and possibly histopathology assessment.

P33
MRI FINDINGS IN MIGRAINE: STRUCTURAL BRAIN CHANGES AND THEIR CLINICAL CORRELATES

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Introduction: Migraine is a common neurological disorder affecting about 12% of the population and a major cause of disability. It may occur with or without aura, the latter usually involving transient visual symptoms. Although its pathophysiology is not fully understood, neuroimaging studies have identified subtle brain changes such as white matter hyperintensities, dilated perivascular spaces (PVS), lacunar infarcts, and microbleeds. The clinical relevance of these findings remains uncertain. This study aimed to characterize MRI changes in migraine patients and assess their correlation with clinical features, particularly migraine frequency and aura.

Methods: We performed a retrospective study of patients diagnosed with migraine who underwent brain MRI between 2016 and 2024. Demographic, clinical, and imaging data were analyzed. Correlations were evaluated using the Spearman test, and group comparisons with the chi-square and Mann–Whitney tests. Significance was set at $p < 0.05$.

Results: Ninety patients were included (mean age 33 years; 68% female). Thirty-three percent had aura, with a mean of six attacks per month. Attack frequency correlated positively with the number of enlarged PVS ($\rho = 0.44$; $p < 0.001$). Patients with aura had more PVS ($p = 0.006$), mainly in the centrum semiovale ($p = 0.038$). In multivariate regression, the number of PVS remained an independent predictor of migraine frequency ($\beta = 1.76$; $p = 0.010$).

Discussion/Conclusion: MRI findings support microvascular and glial alterations in migraine, particularly in patients with aura. The association between enlarged PVS and migraine frequency suggests a role of impaired glymphatic and neurovascular mechanisms. Neuroimaging may serve as a biomarker of disease burden and guide future therapeutic research.

P34
LABYRINTHITIS: IMAGING PATTERNS, DIAGNOSTIC CHALLENGES, AND THE ROLE OF MRI IN CLINICAL MANAGEMENT

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Introduction: Labyrinthitis refers to inflammation of the membranous labyrinth of the inner ear, causing variable degrees of sensorineural hearing loss, vertigo, and tinnitus. The condition can occur secondary to infectious, inflammatory, autoimmune, or post-traumatic causes. Given its subtle clinical presentation and potential for irreversible cochlear damage and deafness, imaging plays a crucial role in diagnosis and treatment planning.

Methods: A pictorial review was conducted combining institutional cases and selected literature to illustrate the spectrum of labyrinthitis on CT and MRI. Emphasis was placed on the role of MRI sequences suggesting an optimal protocol for assessment of the inner ear — including 3D T2/FLAIR and T1 pre- and post-contrast, and high-resolution T2-weighted images.

Results: CT is useful for detecting osseous complications such as fibrosis and labyrinthitis ossificans, whereas MRI remains the gold standard for evaluating active inflammation. Findings include loss of normal T2 labyrinthine fluid signal and enhancement of the cochlea or vestibule (highlighting the role of post-contrast T2/FLAIR). In hemorrhagic labyrinthitis, intrinsic T1 hyperintensity and T2/FLAIR hiperintensity may be observed. Recognizing these signal patterns, while integrating the clinical context, provides hints for a possible etiology and helps differentiate labyrinthitis from mimics such as Ménière's disease, vestibular schwannoma or post-traumatic changes.

Discussion: Early identification of labyrinthitis is crucial for preventing irreversible hearing loss. MRI findings directly influence management by identifying patients who may benefit from corticosteroid therapy or early cochlear implantation before ossification occurs. Awareness of the temporal evolution—from serous to suppurative, hemorrhagic, and ossification—guides prognosis and surgical planning.

Conclusion: Despite excellent CT resolution for the temporal bone and ear structures, MRI is the cornerstone for diagnosing and staging labyrinthitis, due to its ability for early detection of inflammatory changes. Familiarity with imaging patterns enables timely intervention, prevents misinterpretation, and supports multidisciplinary management aimed at hearing preservation and rehabilitation.

P35
RHINO-ORBITAL-CEREBRAL MUCORMYCOSIS — THE BLACK FUNGUS

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Introduction: Rhino-orbital-cerebral mucormycosis (ROCM) is a rare, aggressive and invasive fungal infection that predominantly affects immunocompromised patients with diabetes mellitus. It may present with sinusitis, orbital apex syndrome and progressive angioinvasion, with thrombosis of the cavernous sinus and intracranial vessels, resulting in infarction and tissue necrosis. Due to its high mortality, clinical suspicion, imaging recognition and early diagnosis are essential.

Methods: Case report with review of patient's clinical, microbiological and imaging findings.

Results: A 58-year-old woman with history of poorly controlled diabetes, alcoholism, myelodysplastic syndrome and colorectal carcinoma was admitted with a complete right ophthalmoplegia, ptosis, and vision loss, suggesting acute right-orbital apex syndrome. Initial MRI showed an infiltrative, non-enhancing lesion centered on the right cavernous sinus, extending to the Meckel's cave, pterygopalatine fossa and masticator space, with right-orbital proptosis, pansinusitis and a "black turbinate sign", in keeping with invasive fungal sinusitis. Of note, there was also loss of normal local dural enhancement.
Despite intravenous liposomal amphotericin-B and antibiotic treatment, the patient kept deteriorating and follow-up CT scan showed new right fronto-basal cortico-subcortical hypodensity, suggestive of infarct. Second MRI confirmed disease progression, with optic pathway involvement and extension to the medial-temporal lobe and posterior fossa through perineural spread. There were also signs of vasculitis, with right internal carotid, anterior and middle cerebral arteries stenosis, resulting in multifocal acute ischemic lesions. Despite these findings, oropharyngeal, nasal swab and nasopharynx biopsy were negative for fungal histology. The patient progressed to septic shock and multiorgan failure, culminating in death.

Discussion/Conclusion: This case illustrates the rapid and aggressive course of ROCM. Since negative fungal histology doesn't exclude the diagnosis, as sampling error can lead to false negatives, typical imaging findings, classic risk factors and clinical course lead to diagnosis presumption. Early recognition and disease assessment is crucial, as prognosis remains poor despite aggressive treatment.

P36
MAPPING THE BRAIN IN TUBEROUS SCLEROSIS: A CASE SERIES REVIEW

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Introduction: Tuberous sclerosis (TS) is a genetic neurocutaneous disorder characterized by benign tumor formation in multiple organs. It is an autosomal dominant condition caused by mutations in the TSC1 or TSC2 genes, with approximately 80% of cases due to de novo mutations. Neurological manifestations are common and often present early, with seizures reported in 79–90% of patients and intellectual disability in 44–65%. Characteristic brain imaging findings include cortical tubers, subependymal nodules (SENs), white matter abnormalities, and subependymal giant cell astrocytomas (SEGAs).

Methods/Results: We retrospectively reviewed 16 patients diagnosed with TS between 2016 and 2024. The mean age at diagnosis was 5 years, with a female-to-male ratio of 1.3:1. All patients presented with epilepsy and intellectual disability. Imaging findings showed that 12 (75%) patients had cortical tubers and 14 (88%) had SENs. White matter abnormalities were identified in 6 (38%) patients, and SEGAs were present in 3 (19%). Cortical tubers appeared hypointense on T1 and hyperintense on T2/FLAIR, typically located in the frontal lobes. They may show mild enhancement and are often associated with epilepsy and neurodevelopmental delay. SENs were small (<1 cm), irregular intraventricular lesions, frequently calcified and located along the lateral ventricles. They showed variable MRI signal, often hyperintense on T1 and iso- to hyperintense on T2/FLAIR, with occasional enhancement. SEGAs were found at the foramen of Monro and demonstrated progressive growth with marked contrast enhancement. White matter abnormalities varied in appearance, with radial migration lines seen in 15% of cases.

Discussion/Conclusion: This case series highlights the importance of MRI in diagnosing and monitoring TS. Cortical tubers and SENs were the most common findings. Early recognition of these features is essential for diagnosis, risk stratification, and management. Long-term imaging follow-up is crucial to detect lesion progression.

P37
SKULL BASE FORAMINA: IMAGING FINDINGS AND CLINICAL RELEVANCE

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Introduction: A thorough understanding of the foramina and fissures of the skull base is essential for accurately identifying the numerous neurovascular structures that traverse them. Recognizing normal anatomical variants is crucial for neuroradiologists to distinguish them from pathological findings and to support safe surgical and endovascular planning.

Methods: An anatomical review of the skull base bony structures and their variants was performed, focusing on computed tomography (CT) findings and relevant clinical examples involving the sphenoid, temporal and occipital bones.

Results: Sphenoid bone variants such as the foramen of Vesalius, canaliculus innominatus, and palatovaginal canal represent benign anatomical variations transmitting emissary veins or small neurovascular branches that may mimic lytic lesions or fractures.An aberrant internal carotid artery constitutes a critical vascular variant, often associated with absence or of the carotid canal in the temporal bone. The different arterial course increases the risk of complications during endovascular procedures, otologic or skull base surgery.Rare and benign variants, such as the craniopharyngeal canal, fossa navicularis magna, and canalis basilaris medianus, may serve as potential routes for infection or tumor spread between extracranial and intracranial compartments.

Discussion: Comprehensive knowledge of skull base foraminal variants prevents misinterpretation and unnecessary intervention. Correlation of CT findings with clinical data allows differentiation between normal variants and pathological entities such as tumor invasion, arteriovenous fistulas, or bone neoplasms, which typically show significant asymmetry, bone erosion, or associated soft-tissue components. Three-dimensional reconstructions allow for skull base mapping and further assessment of foramina morphology, dimensions, and neurovascular relationships.

Conclusion: Systematic evaluation of the foramina and fissures of the skull base is essential in neuroradiological practice, contributing to accurate diagnosis, safe surgical planning and improved patient outcomes.

P38
MRI PATTERNS OF NITROUS OXIDE–RELATED MYELONEUROPATHY: CASE SERIES AND REVIEW

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Introduction: Recreational nitrous oxide (N_2O) use is increasingly recognized as a cause of neurotoxicity, most commonly presenting as subacute combined degeneration of the spinal cord and peripheral neuropathy. Characteristic imaging findings are essential for accurate diagnosis and management.

Methods: We present three cases of N_2O-induced neurological complications diagnosed at our institution in 2025, along with a brief literature review highlighting neuroradiological features. MRI of the spinal cord and brain, together with nerve conduction studies, were the main diagnostic modalities assessed.

Results: Case 1: A 26-year-old previously healthy male with chronic weekend N_2O use (≈2 cylinders) developed imbalance, weakness, and paresthesia affecting daily activities. Examination showed hyporeflexia and deep sensory loss in the lower limbs. Spinal MRI revealed longitudinal dorsal column hyperintensity from the craniocervical junction to D11, consistent with N_2O-induced myelopathy.

Case 2: A 23-year-old healthy male with heavy N_2O use (≈50 cylinders over 1.5 months) developed bilateral calf pain, paresthesia, and gait instability. Examination revealed distal weakness and areflexia. Electromyography (EMG) showed demyelinating sensorimotor polyneuropathy. Spinal MRI was normal.

Case 3: A 19-year-old obese male with chronic weekend N_2O use (≈1 cylinder/week for a year) presented with distal sensory loss, gait disturbance, and hand incoordination. EMG revealed mild to moderate sensorimotor polyneuropathy. Cervicothoracic MRI showed symmetric dorsal column hyperintensities from C2–C7 with lateral involvement at C3–C4, compatible with demyelinating lesions.

Discussion: MRI typically shows dorsal column T2 hyperintensity in cervical spine, forming an “inverted V sign”. Myelopathy severity correlates with the amount of exposure. Brain MRI may reveal white matter lesions in a minority of cases. Peripheral neuropathy is common, mainly axonal, though demyelinating forms occur. MRI abnormalities may persist despite clinical recovery.

Conclusion: Prompt recognition allows early vitamin B12 therapy and cessation of N_2O use, improving outcomes. Growing N_2O-related neurotoxicity highlights the need for greater awareness among neuroradiologists and clinicians.

P39
MIDDLE MENINGEAL ARTERY EMBOLIZATION: CHANGING THE PARADIGM IN CHRONIC SUBDURAL HEMATOMAS

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Introduction. Middle meningeal artery embolization (MMAE) has emerged as a minimally invasive treatment for chronic subdural hematoma (cSDH), particularly in patients with contraindications to surgery or high recurrence risk. The 2024 Multidisciplinary Consensus Statement and 2023 NICE guidelines support MMAE for these selected patients.

Methods: A 54-year-old female with Myelofibrosis secondary to Essential Thrombocythemia presented with a 4-day persistent headache refractory to analgesics, without trauma. Neurological examination revealed GCS 15 with no focal deficits. Head CT demonstrated a left convexity cSDH with acute component (thickness 19 mm, midline shift 12 mm). Laboratory tests showed severe thrombocytopenia (10×10^9/L). Given neurological stability and high bleeding risk, surgical evacuation was contraindicated. After multidisciplinary discussion MMAE was selected.

Results: On hospital day 12, after platelet transfusion to maintain levels $>20 \times 10^9$/L, right femoral arterial access was obtained with a 6F sheath. The left external carotid artery was catheterized using a 6F Benchmark catheter, followed by catheterization of the left MMA with a Headway 17 microcatheter. Embolization was performed with 50–100 µm Embospheres. Post-procedure, the patient remained neurologically stable and was discharged 48 hours later. Follow-up CT at 30 days demonstrated hematoma reduction and no rebleeding.

Discussion: Although no universal platelet threshold exists for MMAE, a target of 20×10^9/L is considered sufficient. MMAE occludes the arterial supply to the hematoma's outer neomembrane, facilitating resorption and reducing recurrence. Patient selection is the key to achieve good outcomes. Those with recurrence risk or bad surgical profile will benefit the most from this technique. Coiling, glue or EVOH offer consistent results but higher costs; Embospheres and PVA are cheaper but probably less effective.

Conclusion MMAE is a safe, feasible, and effective alternative to surgery for cSDH in patients with severe hematologic disorders, aligning with international recommendations for high-risk patients.

P40
SPONTANEOUS INTRACRANIAL HYPOTENSION: CASE REPORT OF CSF- VENOUS FISTULA DIAGNOSIS AND EMBOLIZATION

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Introduction: Spontaneous intracranial hypotension (SIH) is a CSF dynamics disorder mostly caused by a spinal leak and is often difficult to diagnose. The most common presentation includes orthostatic headache but the clinical picture may vary and increase difficulty in adequate management. Precise localization of CSF leaks using techniques such as dynamic myelography is required for effective treatment.

Methods: Case presentation of SIH secondary to spontaneous CSF-venous fistula.

Results: A 59-year-old male on anticoagulant therapy presented to the emergency department of a private hospital following a 10-day history of a severe postural orthostatic headache. The patient reported no history of trauma or surgery. CT scan revealed no significat alterations, as the patients was discharged with symptomatic medication. Returning to the same hospital, Brain MRI revealed bilateral and retroclival subdural hematomas, pachymeningeal enhancement, venous distension, enlarged pituitary gland and decreased prepontine and mamillopontine distance, despite severe basilar ectasia. The patient was transfered to our Interventional Neuroradiology center, where further spine imaging excluded posterior spinal longitudinal epidural collections. Subsquent same-day bilateral decubitus dynamic CT myelography confirmed a CSF–venous fistula at right D11–D12 draining to the paraspinal vein. Patient underwent successful venous embolization of internal epidural venous plexus and foraminal vein using Onyx, via femoral vein access. Early follow-up imaging revealed decreased brain sagging and complete symptom reversal with return to full-time labor.

Discussion and Conclusion: Diagnosing CSF–venous fistulas remains particularly challenging, often leading to delayed recognition of spontaneous intracranial hypotension. Early referral to specialized centers with expertise in advanced myelographic techniques is essential for accurate leak localization and timely, targeted treatment. Broader dissemination of these diagnostic and therapeutic approaches may significantly improve patient outcomes.

P41
IMAGING LESSONS FROM FAHR SYNDROME: WHEN CALCIFICATIONS TELL A STORY

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Introduction: Fahr syndrome, or bilateral striato-pallido-dentate calcinosis, is a rare disorder defined by abnormal, symmetric intracranial calcificatons, classically affecting the basal ganglia, thalami, cerebellar dentate nuclei, and subcortical white matter. It may be idiopathic/familial (genetic) or secondary to metabolic, endocrine, or systemic conditions.

Methods: A comprehensive educational review was conducted, focusing on radiological patterns, clinical manifestations, genetic associations, and differential diagnosis. Educational emphasis was placed on the neuroradiological aspects that assist in recognizing Fahr syndrome and distinguishing it from other causes of intracranial calcifications.

Results: Non-contrast CT is the most sensitive modality for detection, revealing bilateral, symmetric calcifications that may range from punctate to confluent. MRI is less sensitive but may demonstrate corresponding hypointensity on T2-weighted and susceptibility sequences. Genetic mutations, particularly in SLC20A2, PDGFB, PDGFRB, XPR1, MYORG, and JAM2, account for a significant proportion of familial cases. Clinically, patients may present with movement disorders such as parkinsonism, dystonia, or chorea, as well as psychiatric symptoms, cognitive decline, or seizures. In secondary forms, hypoparathyroidism remains the most frequent underlying condition, and biochemical screening is mandatory. Importantly, the extent of calcification does not reliably correlate with disease severity or prognosis.

Discussion: The recognition of Fahr syndrome on neuroimaging is essential for neuroradiologists. Differentiating idiopathic cases from secondary causes is critical, as the latter may benefit from targeted treatment. While therapy remains mainly symptomatic in primary disease, correction of underlying metabolic disturbances may stabilize secondary forms. The educational value lies in reinforcing the imaging hallmarks and clinical context that guide accurate diagnosis.

Conclusion: Fahr syndrome is a heterogeneous clinicoradiological entity. CT remains the diagnostic cornerstone, while MRI provides supportive findings. Neuroradiologists play a key role in identifying its characteris c features, excluding treatable causes, and supporting clinical and genetic evaluation.

P42
PETROCLIVAL HYDATID DISEASE MIMICKING CHORDOMA: DIAGNOSTIC PITFALLS

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Introduction: Hydatid disease caused by Echinococcus granulosus very rarely affects the skull base. Petroclival involvement is exceptionally uncommon and may closely resemble aggressive neoplasms such as chordoma or chondrosarcoma. Awareness of its imaging spectrum is crucial to avoid misdiagnosis and inappropriate management.

Methods: We report the case of a 72-year-old man who presented with progressive hearing loss, facial palsy, dysphagia, and gait imbalance. The patient underwent MRI and CT of the skull base for lesion characterization, followed by histopathological confirmation.

Results: Imaging demonstrated a destructive petroclival lesion with marked osseous infiltration and multicystic components extending into the pre- and latero-pontine cisterns, bilateral internal auditory canals, and the inner ear. The case was initially interpreted as a petroclival chordoma. Given the lesion's extent and apparent irresectability, no immediate biopsy or surgical intervention was performed. Subsequent clinical deterioration led to follow-up imaging, which showed enlargement of the dominant cystic component causing brainstem compression and obstructive hydrocephalus, prompting surgical excision. Histopathology confirmed hydatid disease. Postoperative MRI of the neuraxis revealed persistent skull base involvement and an additional cyst at the S2 level. The patient was placed on long-term albendazole therapy due to diffuse osseous infiltration precluding complete resection.

Discussion: This destructive petroclival lesion with mixed solid-cystic morphology mimicked an agressive skull base tumour such as chordoma or, less likely, chondrosarcoma. The lesion's extent and lack of surgical options initially delayed histological confirmation. Progressive clinical deterioration ultimately led to surgery, which established the parasitic nature of the disease. This case illustrates how hydatid disease can imitate a broad spectrum of pathologies and demonstrates the importance of maintaining a wide differential when imaging findings are atypical.

Conclusion: Hydatid disease should be considered in the differential diagnosis of destructive petroclival lesions, particularly in endemic areas. An earlier biopsy might have prevented diagnostic delay.

P43
CEREBRAL BIPOLARIS INFECTION MIMICKING HIGH-GRADE TUMOR IN AN IMMUNOCOMPETENT PATIENT: FIRST IMPORTED CASE REPORTED IN EUROPE

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Introduction: Fungal infections of the central nervous system (CNS) are rare and typically occur in immunocompromised hosts. Bipolaris is a dematiaceous fungus endemic to tropical and subtropical regions, with CNS involvement being exceedingly uncommon. Its clinical and imaging presentation may closely resemble that of malignant tumors, leading to diagnostic delay. We report the first imported case of cerebral Bipolaris hawaiiensis infection described in Europe.

Methods: Comprehensive review of clinical, imaging, histopathological, and microbiological data from a single case of cerebral Bipolaris infection in an immunocompetent patient, focusing on the diagnostic process and imaging features.

Results: A 54-year-old woman, previously healthy and immunocompetent, with a history of travel to Thailand, presented with progressive neurological deficits. MRI revealed a right fronto-parietal cortico-subcortical lesion with central necrosis, irregular peripheral enhancement, restricted diffusion, and extensive vasogenic edema, initially interpreted as a high-grade glioma. Craniotomy with excision was performed. Histopathology and microbiology confirmed Bipolaris hawaiiensis. Postoperative antifungal therapy was initiated. Follow-up MRI demonstrated transformation from an active enhancing lesion with peripheral restriction to a stable surgical cavity surrounded by gliosis, without recurrence or dissemination. The clinical course stabilized under long-term antifungal therapy.

Discussion: Cerebral Bipolaris infection can mimic aggressive neoplasms even in immunocompetent hosts. Recognition of epidemiologic risk factors—such as travel to endemic regions—and integration of imaging, histopathologic, and microbiologic findings are essential for accurate diagnosis and treatment planning.

Conclusion: This represents the first imported case of cerebral Bipolaris hawaiiensis infection reported in Europe, underscoring the need for vigilance in the differential diagnosis of tumor-like brain lesions, even in immunocompetent patients.

P44
SPHENOID SINUS MYCETOMA: A RARE CAUSE OF CHRONIC HEADACHE

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Introduction: Mycetoma, or fungal ball, represents the most common form of non-invasive fungal rhinosinusitis in immunocompetent individuals. Although usually involving the maxillary sinus, the sphenoid sinus is affected in up to 25% of cases. Because symptoms are often nonspecific and imaging features may overlap with mucoceles or other benign lesions, diagnosis can be challenging.

Methods: A 71-year-old woman presented with a 3-year history of progressively worsening holocranial headache, occasionally associated with photophobia and phonophobia, sometimes waking her at night and refractory to mild analgesics. ENT examination was normal, and there was no history of sinus surgery or trauma. CT and MRI of the paranasal sinuses were performed.

Results: CT showed complete opacification of the left sphenoid sinus by a hyperattenuating expansile lesion with smooth bone remodelling, intralesional calcifications, focal roof dehiscence and sclerosis of the posterior and lateral walls. MRI demonstrated an iso- to mildly hypointense T1-weighted and markedly hypointense T2-weighted lesion with diffusion restriction and a thin peripheral rim enhancement after contrast. A subtle contiguous dural enhancement was also seen, without brain parenchymal involvement. Endoscopic sinus surgery (type III sphenoidotomy) revealed dense yellowish fungal debris filling the sinus. Microbiological culture confirmed Aspergillus fumigatus.

Discussion: The imaging appearance initially suggested a sphenoid mucocele. However, the presence of calcifications, signal heterogeneity, susceptibility artefacts on MRI and bony sclerosis were retrospectively recognised as typical of mycetoma. The thin reactive dural enhancement corresponded to chronic inflammatory changes, not invasive disease.

Conclusion: Sphenoid sinus mycetoma should be considered when sinus lesions display atypical imaging features for a mucocele, particularly T2 hypointensity and susceptibility artefacts suggestive of calcifications. Recognition of these findings is crucial for surgical planning. Endoscopic sinus surgery ensures complete removal with restoration of sinus ventilation and minimal risk of recurrence.

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INTRACEREBRAL CSF PSEUDOCYST WITH EDEMA SECONDARY TO VENTRICULOPERITONEAL SHUNT FRACTURE: NEUROIMAGING CHARACTERIZATION WITH CLINICAL AND NEUROSURGICAL CORRELATION

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Introduction: Intracerebral pericatheter cerebrospinal fluid (CSF) collections with edema are a rare complication of ventriculoperitoneal (VP) shunts, typically observed in pediatric patients and usually associated with shunt malfunction. In adults, this entity is exceedingly uncommon, with very few cases described. It is generally attributed to ependymal disruption and CSF transudation secondary to intraventricular hypertension. However, no previous report has documented such a lesion caused by structural catheter fracture several decades after implantation.

Methods: We describe a rare adult case of intracerebral pericatheter CSF collection with edema due to catheter fracture, highlighting the neuroimaging features, clinical correlation, and neurosurgical management.

Clinical Case: A 41-year-old woman with post-meningitic hydrocephalus treated with a VP shunt at age 4 presented with a 5-day history of left-hand and lip paresthesias and a 6-month history of intermittent blurry vision. Examination revealed right-hand pronation drift and distal weakness, with sensory changes consistent with right parietal lobe dysfunction. CT demonstrated a digitiform hypodense area around a discontinuity in the parietal segment of the VP shunt catheter, suggestive of a CSF collection with surrounding vasogenic edema and mild mass effect, without ventricular dilatation. MRI confirmed a T2/FLAIR hyperintense intra-axial lesion centered on the catheter, isointense to CSF with fine septations, and without diffusion restriction or enhancement. These findings supported the diagnosis of an intracerebral pericatheter CSF collection secondary to catheter fracture and CSF leakage through the defect—a distinct mechanism from the usual ependymal disruption. A contralateral VP shunt was placed, leaving the fractured catheter in situ. Symptoms resolved completely, and follow-up imaging at 3 months showed near-total resolution of the collection and edema.

Conclusion: This case represents a unique long-term complication of VP shunting, occurring 37 years post-implantation—the longest latency reported. Recognition of this rare entity is essential to prevent misdiagnosis as abscess or tumor and to guide appropriate management. It also highlights the potential long-term fragility of shunt materials and the importance of ongoing vigilance in lifelong shunt carriers.

P46
UNMASKING THE MIRAGE: AN ATYPICAL ICA TERMINATION MIMICKING MCA PATHOLOGY

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Introduction: Intracranial vascular variants, though uncommon, can present significant diagnostic challenges, particularly when coexisting with pathological changes such as atherosclerosis. Misinterpretation may result in unnecessary interventions or missed diagnoses. We present a previously undescribed bifurcation variant of the internal carotid artery (ICA), initially mistaken for middle cerebral artery (MCA) dysplasia or aneurysm, and discuss its pathophysiological relevance.

Methods: We describe a novel ICA bifurcation variant mimicking MCA pathology, integrating multimodal imaging and clinical correlation. CT, MR angiography, and digital subtraction angiography (DSA) were analyzed, including 3D reconstructions.

Clinical Case: A 28-year-old woman presented with a 5-month history of holocranial headaches, worsening over the previous 3 months. Non-contrast CT revealed dense calcifications in the supraclinoid ICA and proximal M1 segment, with a nodular focus suggestive of a thrombosed aneurysm. MR angiography demonstrated fusiform dilation of the anterior temporal branch origin and subocclusive distal M1 stenosis, raising suspicion of arterial dysplasia. DSA initially appeared to confirm these findings; however, detailed review with 3D reconstruction revealed a distinct anatomical configuration: a distal bifurcation of the left ICA with a horizontally oriented segment giving rise to both the anterior cerebral and middle cerebral arteries. Eccentric calcifications and mild focal stenoses (~30%) at the bifurcation and proximal M1 were consistent with localized atherosclerotic changes. The absence of systemic vascular disease or risk factors supported the interpretation of a congenital vascular variant with secondary segmental atherosclerosis rather than acquired dysplasia or aneurysmal disease.

Conclusion: This case illustrates a rare distal ICA bifurcation variant with segmental atherosclerosis mimicking MCA dysplasia and aneurysm—an association not previously reported. Awareness of such variants is critical to prevent diagnostic errors, especially in young patients without risk factors. High-resolution angiographic imaging, particularly 3D DSA, remains indispensable for accurate identification and appropriate management.

P47
ASYMMETRIC BILATERAL COCHLEAR MALFORMATIONS IN A PEDIATRIC PATIENT

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Introduction: Congenital sensorineural hearing loss affects approximately 1.3–1.8 per 1,000 newborns. Among these, around 20 % (20–40 per 100,000 newborns) present radiologically detectable inner ear malformations or cochleovestibular nerve abnormalities, whereas the remaining cases result from membranous defects not visible on imaging. These anomalies result from developmental alterations occurring between the 3rd and 8th gestational weeks, with classification based on the stage of morphologic interruption, including complete labyrinthine aplasia, common cavity, cochlear aplasia, cochlear hypoplasia and incomplete partition.

Methods: We present a clinical case observed at our center, conducting a retrospective analysis of the patient's clinical and audiological history and CT findings. The imaging was evaluated to determine the type and extent of malformation and its implications for cochlear implantation planning.

Results: We present a female infant born at term, that presented an abnormal newborn hearing screening, with bilateral "refer" results on both OAE and ABR testing. In the physical exam, she presented with a bilobated pre-auricular appendage on the right. Subsequent audiological evaluation confirmed profound bilateral sensorineural hearing loss. A CT scan of the ears, performed when she was one, revealed a common cavity deformity on the right, characterized by confluent vestibulocochlear morphology with dilation of the superior and lateral semicircular canals and absence of the posterior canal. On the left, there was cochlear aplasia with a dilated vestibule, rudimentary superior semicircular canal, and atresia of the oval window. Both internal auditory canals were patent, and the right facial nerve canal was clearly identified. The patient is awaiting MRI for further assessment of the cochlear nerve and membranous labyrinth.

Discussion: Cochlear aplasia and common cavity deformity are extremely rare and often associated with cochlear nerve hypoplasia and aberrant facial nerve course. These variants complicate cochlear implantation due to increased risk of perilymphatic or CSF gusher and atypical electrode positioning. High- resolution CT is a very important exam for diagnosis, classification, and preoperative mapping of key osseous landmarks.

Conclusion: This case illustrates a rare asymmetric association of cochlear aplasia and common cavity deformity, emphasizing the decisive role of CT in diagnosis and surgical planning for congenital bilateral hearing loss.

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SNIFFING OUT THE CAUSE: ESTHESIONEUROBLASTOMA WITH ECTOPIC ACTH SECRETION

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Introduction: Esthesioneuroblastoma, or olfactory neuroblastoma, is a rare malignant neuroectodermal tumor arising from olfactory epithelium, representing 3–6% of all sinonasal neoplasms. Although typically non-functional, ectopic hormone production, particularly adrenocorticotropic hormone (ACTH) has been reported in fewer than 5% of cases, leading to paraneoplastic Cushing's syndrome. We presente an uncommon case of ACTH-secreting esthesioneuroblastoma with detailed imaging, endocrine, andhistopathological correlation.

Methods: We performed a retrospective review of the patient's clinical history, endocrine assessment, imaging studies (CT and MRI), and histopathological results obtained at two tertiary centers.

Results: A 41-year-old woman presented with rapid-onset Cushingoid features, facial rounding, hypertension, and proximal myopathy. Laboratory evaluation revealed markedly elevated serum cortisol and ACTH levels, non-suppressible by dexamethasone. Pituitary MRI excluded adenoma. Contrast-enhanced CT and MRI of the paranasal sinuses demonstrated a well-defined enhancing mass occupying the right superior nasal cavity and ethmoid roof, extending to the cribriform plate and anterior cranial fossa floor, without orbital or dural invasion. The lesion was isointense in T1/T2 and had intense homogeneous post-contrast enhancement, suggestive of esthesioneuroblastoma (Kadish B). Endoscopic biopsy confirmed neuroendocrine differentiation with ACTH immunopositivity, consistent with ectopic ACTH-secreting esthesioneuroblastoma. The patient underwent combined endoscopic resection and adjuvant radiotherapy, with subsequent remission and radiologic stability on follow-up MRI.

Discussion: Ectopic ACTH production by esthesioneuroblastoma is very rare. Its recognition is critical, as endocrine manifestations may precede sinonasal symptoms. MRI remains the imaging modality of choice for assessing local extension and surgical planning. Radiologic differentiation from meningioma, sinonasal carcinoma, and pituitary adenoma is essential.

Conclusion: This case highlights a rare functional variant of esthesioneuroblastoma, emphasizing the importance of integrated radiologic and endocrine evaluation in patients presenting with unexplained ACTH- dependent hypercortisolism.

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AXIAL GOUTY ARTHRITIS: CASE REPORT OF AN EXTRALUMINAL L4-L5 LESION IN A PATIENT WITH CHRONIC HYPERURICEMIA

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Introduction: Axial gouty arthritis is a rare form of gout involving monosodium urate crystal deposition in the spine or paravertebral tissues. It often mimics infections or neoplasms, leading to diagnostic challenges. This report presents a case of an extraluminal L4–L5 lesion in a patient with chronic hyperuricemia and multiple rheumatic comorbidities.

Methods: A 67-year-old woman with scleroderma, rheumatoid arthritis, Sjögren's syndrome, and chronic hyperuricemia developed a painful paravertebral mass over two years. Clinical evaluation and imaging—including computed tomography (CT) and magnetic resonance imaging (MRI)—revealed a calcified, cystic lesion adjacent to the L5 spinous process. Surgical excision was performed for diagnosis and symptom relief.

Results: Intraoperative findings showed a yellowish, pasty material consistent with tophaceous gout. Histopathology confirmed the diagnosis of gouty arthritis. Postoperative recovery was uneventful, with no neurological deficits. The patient's treatment plan included optimization of urate-lowering therapy (ULT) to prevent recurrence.

Discussion: Axial gout remains underrecognized due to its nonspecific clinical and radiological features. Differential diagnosis must exclude neoplastic and infectious causes. In Portugal, ULT is recommended for patients with recurrent flares, tophi, or urate nephrolithiasis, with target serum urate <6 mg/dL. Despite long-term allopurinol use, this patient's presentation reflected suboptimal disease control. Surgical management provided local resolution, but systemic therapy adjustment was essential for long-term disease control.

Conclusion: This case underscores the importance of considering axial gout in the differential diagnosis of paravertebral masses, especially in patients with hyperuricemia and rheumatic comorbidities. Early recognition and strict urate control are critical to prevent neurological and structural complications. Further research is warranted to define specific management guidelines for axial gout.

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