

## E.2

### Isolated restricted diffusion at admission predicts survival in patients of glioblastoma (IRD-GB) – a prospective pilot study

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**Background:** Glioblastoma (GB) is the most malignant primary brain tumor. Isolated restricted diffusion (IRD) is restricted diffusion outside the confines of enhancing tumor with no corresponding enhancement on post contrast study. The aim of our study was to prospectively assess the incidence of IRD in GB patients, determine how often these foci proceed to contrast enhancement on follow up, and analyze the survival pattern. **Methods:** In a prospective pilot cohort study, consecutive adult patients with GB on initial MRI of brain, were included and screened for IRD. All images were independently analyzed by two experienced radiologists. The survival pattern of patients with IRD was assessed with Cox-regression and Kaplan-Meier curve analysis. **Results:** Of the 52 patients (median age- 63 years; male-63.5%), 21% (11 of 52) exhibited IRD. Inter-rater agreement on the diagnosis of IRD foci was fair (kappa=0.29). Seven (64%) showed enhancement in the IRD focus. The Kaplan Meier analysis revealed a significant decrease ( $p=0.035$ ) in the survival was observed among patients with IRD focus. **Conclusions:** IRD focus was seen in 21% of patients with GB, with 64% of these demonstrating enhancement at the IRD focus on follow up imaging. A shorter survival was associated with IRD foci.

## E.3

### Behind the brain's veil: unraveling the neuroimaging mysteries of CNS Balamuthia mandrillaris

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**Background:** Balamuthia mandrillaris is a rare protozoan pathogen that causes severe central nervous system (CNS) infections in humans. Given the complexity and rarity of these infections, understanding the radiological features is key for early diagnosis and management. This case series aims to elucidate the spectrum of imaging findings in microbiologically confirmed Balamuthia CNS infection cases. **Methods:** A retrospective study analyzing imaging findings of 20 patients with confirmed Balamuthia CNS infections collected from the hospital's archives, all of whom had positive CSF cultures and underwent gadolinium-enhanced MRI scans. **Results:** Patients presented with non-specific symptoms including headaches and seizures. Imaging revealed multiple intra-axial enhancing lesions with surrounding vasogenic edema, some demonstrating ring enhancement and typical imaging features of intracranial

abscesses. Cerebritis, hemorrhagic infarcts and necrosis were also noted. **Conclusions:** CNS infections have a diverse group of causative organisms, including amoebic ones like Balamuthia, and often present with overlapping symptoms, complicating diagnosis. Accurate and timely imaging recognition, combined with CSF analysis, is essential for diagnosing and managing patients promptly, improving overall patients outcome in Balamuthia mandrillaris CNS infections.

## E.4

### Safety and outcomes of middle meningeal artery embolization for pseudoaneurysms and aneurysms: a systematic review

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**Background:** Middle meningeal artery embolization (MMAE) is increasingly used to treat chronic subdural hematomas, arteriovenous fistulas and meningiomas. Less commonly, MMAE is performed for pseudoaneurysms and aneurysms. While procedural safety and efficacy in the context of the former diseases is well-documented, data for MMA aneurysm/pseudoaneurysm treatment are scarce. **Methods:** We conducted a systematic review using PubMed/Medline and GoogleScholar, targeting studies published in English since 1994. Original research studies and case reports involving adult patients ( $\geq 18$  years) with aneurysms or pseudo-aneurysms treated with MMAE were included. Data on complications, outcomes, procedural techniques, and embolization materials were analyzed using descriptive statistics. **Results:** Of 1,690 identified studies, 600 underwent full-text review, and 27 studies/case reports focusing on MMAE for pseudoaneurysms and aneurysms were included in the final analysis. In most cases, the treatment was successful, with complete (pseudo-)aneurysm occlusion in all patients and symptom improvement in 24 of 28 patients (85.7%). Complications were rare, occurring in  $<5\%$ , and mild, such as transient headaches ( $n=1$ ) which resolved spontaneously. **Conclusions:** MMAE appears to be a safe and effective treatment for pseudoaneurysms and aneurysms, with minimal complications and high success rates. However, available data are scarce and from case reports only, limiting generalizability. Confirmation in larger, multicenter studies is needed.

## E.5

### Does administration of iodinated contrast for CT-imaging modalities impact renal function?

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**Background:** Computed tomography (CT) is common imaging modality, though its utilization of iodinated contrast media (ICM) has been historically associated with adverse effects on the