Pineal region tumor magnetic resonance imaging

Pineal region tumors do not have pathognomonic imaging findings in MRI; however, T1 hyperintensity, which is a key for imaging diagnosis according to recent reports. In particular, if the hyperintensity in T1 is not due to fat, calcification, melanin, or hemorrhage in a mass of the posterior commissure or pineal region, the diagnosis of a Papillary Tumor of the Pineal Region (PTPR) may be suggested [1].

Pineal parenchymal tumors show an “explosion” of normal pineal calcifications towards the periphery.

• Pineoblastomas often have restricted diffusion, with apparent diffusion coefficient (ADC) values lower than germinomas.

• Pineal teratomas and pineal lipomas display fat signal characteristics and fat saturation on MRI.

• Pineal lesions in patients with known malignancy should raise suspicion of metastatic involvement.

• Pineal cysts and pineal arachnoid cysts show MRI signal characteristics similar to cerebrospinal fluid (CSF) [2].

References

1)
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2)
Fang AS, Meyers SP. Magnetic resonance imaging of pineal region tumours. Insights Imaging. 2013 Jun;4(3):369-82. doi: 10.1007/s13244-013-0248-6. Epub 2013 May 3. PubMed PMID: 23640020; PubMed Central PMCID: PMC3675249.