

Frontal Bone Recurrent Ectopic Craniopharyngioma after transfrontal resection: case report

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Introduction

Craniopharyngiomas are rare solid or mixed solid-cystic tumors. Although benign histological, these tumors frequently shorten life and should be considered low-grade malignancies. Local recurrences are seen in about 70% of cases. However, ectopic recurrences are exceptional and tend to have higher proliferation indexes. The two mechanisms proposed are dissemination along the surgical route and via tumor cell spillage into CSF. The most common location is the frontal lobe. Posterior fossa tumors have also been described but bone ectopic recurrence is scarce.

Case presentation

We present the case of a 12 years old boy diagnosed in 2008, at age of 5, with a suprasellar tumor of 22/21/20 mm with mixed solid and cystic areas. The tumor was operated twice, by left transfrontal approach in 2008 and by right transfrontal approach in 2009. The pathology exam revealed an adamantinomatous craniopharyngioma, with a MIB-1 of 5%. Postoperatory, the patient developed hypopituitarism: the insulin tolerance test revealed maximum GH: 0.52 ng/ml, maximum cortisol: 0.33 mcg/dl, glycemic nadir: 25 mg/dl, normal repeated IGF1 (120.7 ng/ml with normal values between 85.2- 248.8), normal prolactinemia: 15.48 ng/ml, LH= undetectable, FSH= 0.15 mUI/ml, TSH= 1mU/L with low T4. He also developed a polyuro-polydipsic syndrome of 6 liters/ day- diabetes insipidus. The hypopituitarism was well controlled on L-thyroxin 50 mcg/day, hydrocortisone 15 mg/day (with dose adjustments) and Desmopressin 240 mcg/day- treatment, administered continuously until the present. Even though the patient presented biochemical GH deficiency in 2009, this did not prejudice his growth: at 12 years and 5 month he had a height of 148 cm (-0.55 SD), height velocity 5.44 cm/year (-0.1SD), weighing 61.5 kg, BMI= 28kg/mp (+2.27SD) -hypothalamic obesity. He did not present spontaneous puberty.

No imagistic recurrence of the tumor was identified until 2014 when he presented with a left frontal tumefaction with progressive expansion, which was operated in 2015. The pathology exam revealed a frontal bone tumor of 30/25mm with solid and cystic parts, IHC: beta-catenin positive, Ki-67= 10%-ectopic recurrence of the adamantinomatous craniopharyngioma in the left frontal bone, 6 years after the first resection. Only 4 month after the intervention, local and ectopic recurrence was discovered on the MRI: two lesions located in the chiasmatic cistern of 5 and 8 mm and a mixed lesion of 27 cm diameter in the left frontal bone, with compression on the frontal lobe.

Discussion

We emphasize the importance of preventing iatrogenic tumor implantation.

Long term follow up is mandatory even if the resection is complete and no local recurrence is detected in early check-ups.

External radiotherapy (proton beam RT, Intensity modulated RT, stereotactic radiosurgery) should be taken into consideration after complete resection, even though there have been described cases of ectopic recurrences after conventional radiotherapy.

Normal linear growth may be present in some obese patients, despite of GH deficiency.

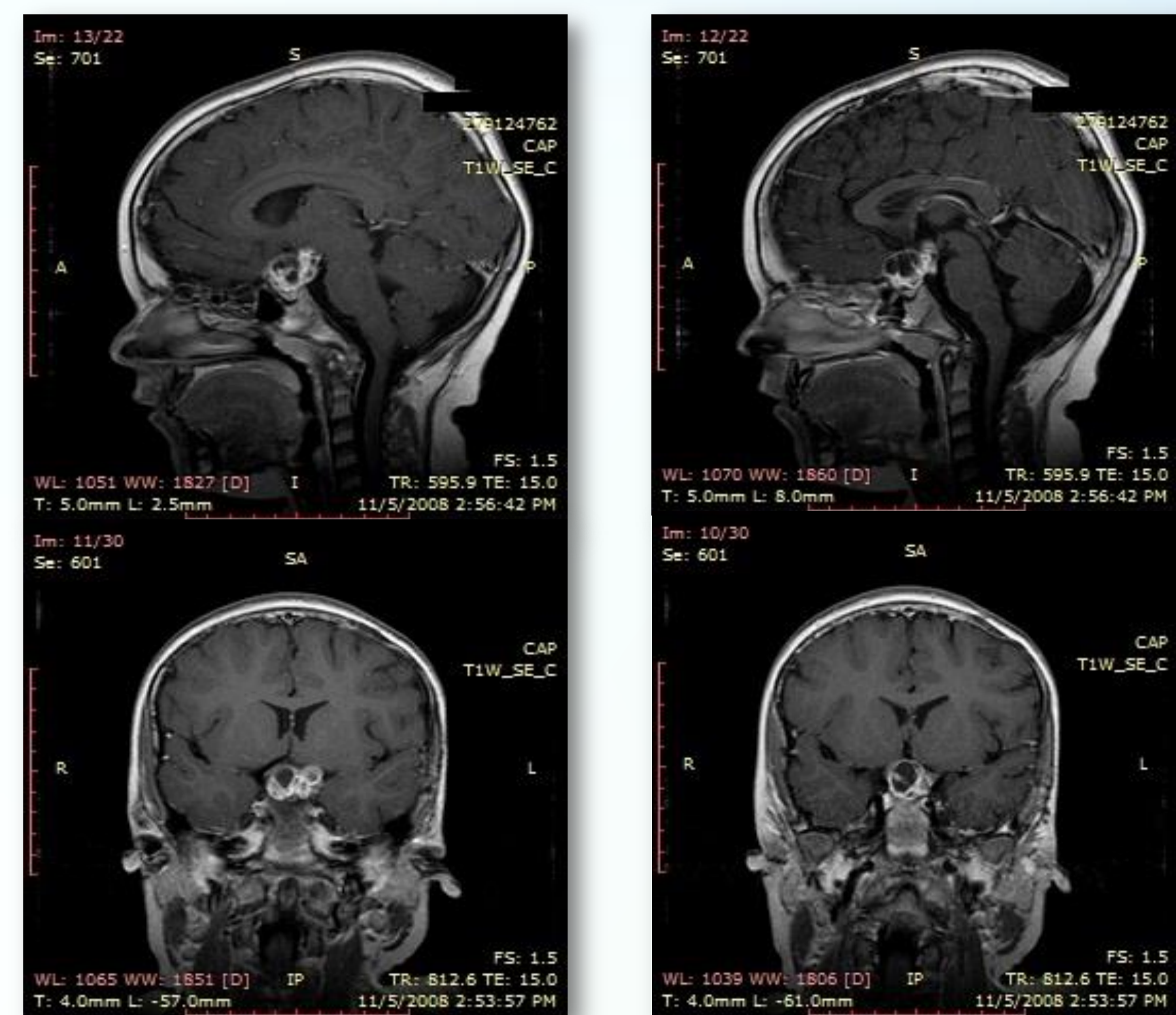


Fig. 1: 2008- mixed lesion in the suprasellar region

04.2014 → 10.2014

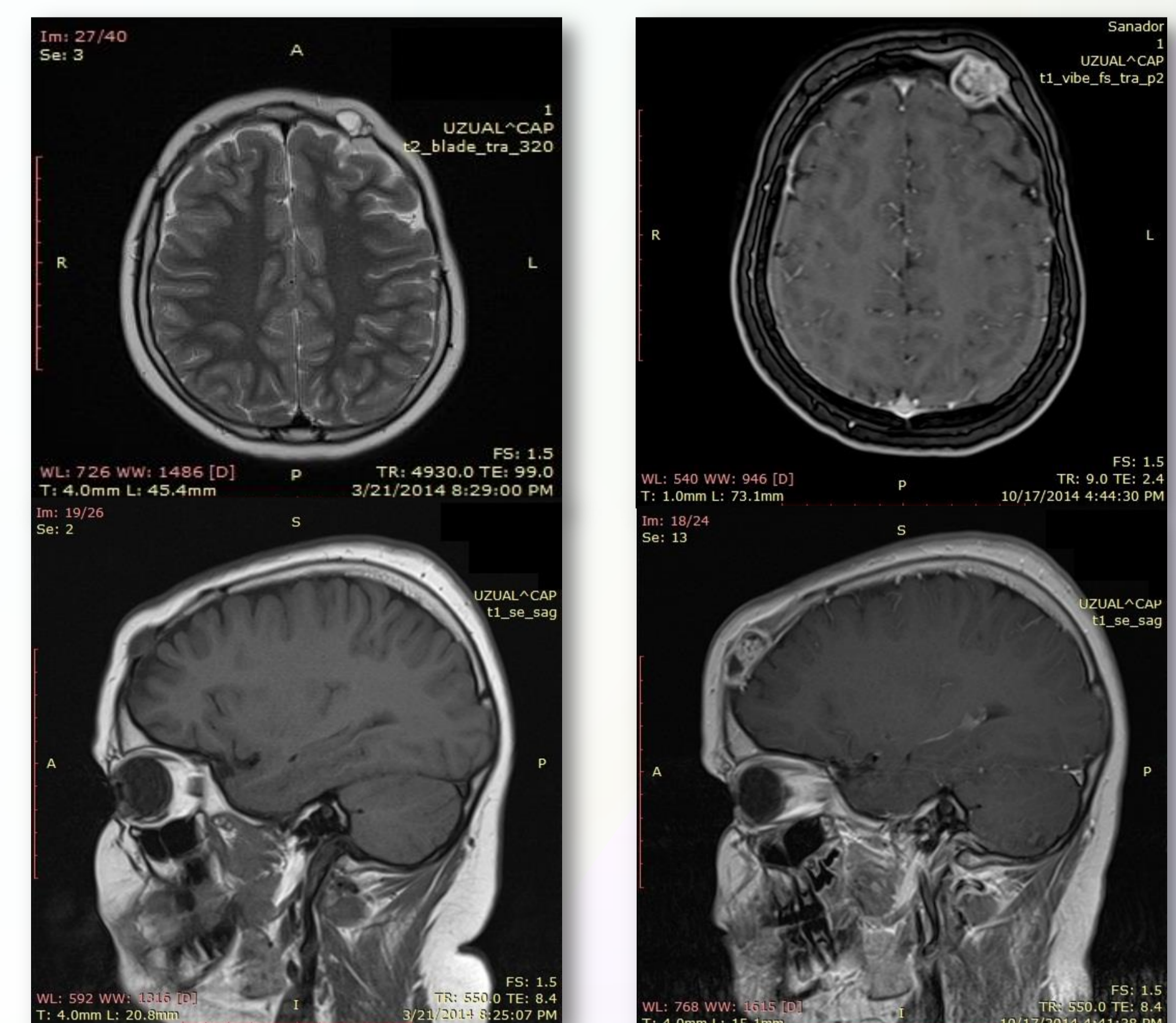


Fig 2: frontal bone ectopic recurrence of the craniopharyngioma with important progression over 6 months.

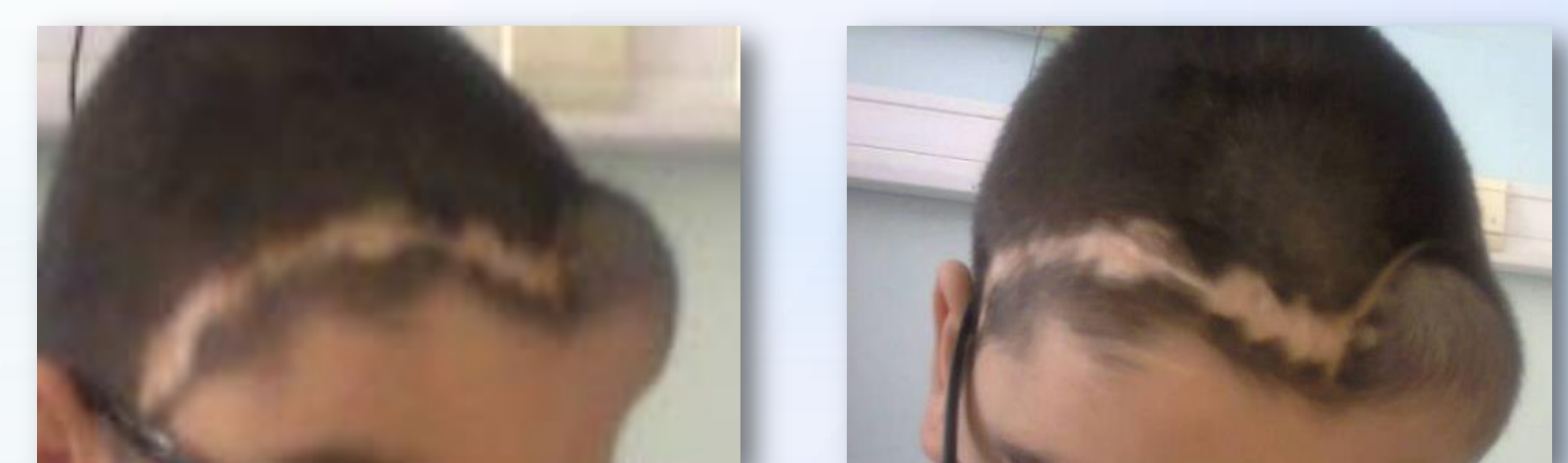


Fig.3: left frontal tumefaction along the surgical route of the first transfrontal resection

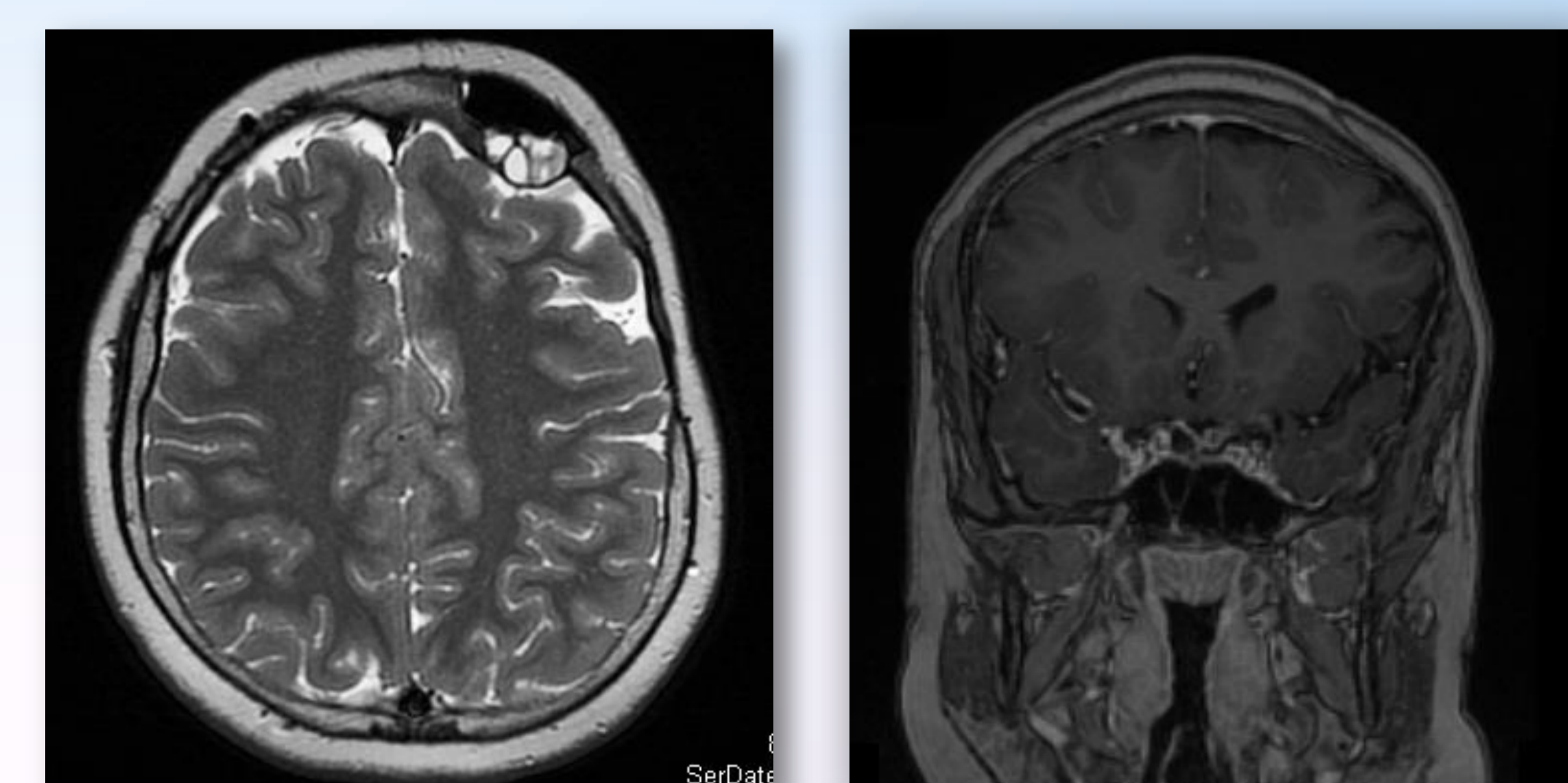


Fig. 4: 09.2015: MRI,T2: 4 month after the resection of the frontal mass- local and ectopic recurrence.

Ref: Shannon, C.; Nagoya J Med Sci. 2015 Feb; 77(1-2): 297–306.

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