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Brain´s teeth

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Introduction: Although sometimes classified under the non germinomatous germ cell tumors (NGGCT) category, teratomas are often considered a separate entity and are classically divided into mature and immature. Mature teratomas are composed of fully differentiated “adult-like” tissue elements from ectoderm, mesoderm, and endoderm. Immature teratomas contain incompletely differentiated tissue elements, like neuroepithelium, that resembles fetal tissue.

Methods: We report a case of a three- years old boy, who presented a growth failure because due to growth hormone (GH) deficiency showing a suprasellar partially calcified mass. The unusual histological findings, surgical technique and literature results are presented and discussed.

Case Report: The endocrinological work-up included brain imaging and a heterogeneous, partially calcified suprasellar lesion, but no hydrocephalus was found. Tumor markers were negative. A fronto-temporal craniotomy was performed with partial resection of the tumor. Atypical calcification with multiple mural teeths of normal size were found embedded in firm tissue. Only one tooth and parts of other parenchymatous tumor regions could be obtained. A piezosurgical instrument was necessary to harvest the tooth. The histological diagnosis was mature teratoma. The analysis of the tissue revealed dentine in the calcification mass, being described as an ordinary tooth. The child had a mild preoperative diabetes insipidus which needed medication after the surgery due to further increase of fluid intake.

Conclusions: The relevant literature was reviewed and to our knowledge there are not previous cases in the literature of brain teratomas containing teeth. Although the diagnosis of teratomas is readily provided with the identification of at least 2 of the 3 germ layers (ectoderm, mesoderm, endoderm) in the tumor mass, the origin of these neoplasms largely remains speculative.