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Hypothalamic osteolipoma of the tuber cinereum

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The hypothalamic and neighbouring sellar regions give rise to a wide spectrum of malignant and benign tumours of glial/glioneuronal, meningothelial, mesenchymal, epithelial and germ cell origin [1]. Some of them are rather hamartomas than true neoplasms or they are regarded as malformations. Among this omnium gatherum of entities osteolipoma is a rare but sometimes symptomatic finding.

The osteolipoma reported here was unexpectedly found at necropsy in a 52 year old man who died of coronary heart disease, but was otherwise asymptomatic. After removing the brain, a yellowish nearly spherical tumour mass of 1cm was found in the hypothalamic region adjacent to the left tuber cinereum (Fig. 1). Because of the hard consistency a meningioma, a craniopharyngioma and even an arterial aneuyrsm were considered as possible diagnosis.

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On histology the tumour was composed of mature adipose tissue with an incomplete outer shell of bone and a capsule of connective tissue (Figs. 2, 3). There were also a few bony trabecula extending into the adipose tissue. The bone was of the lamellated type, but had conspicuously irregular intersecting lines (Fig. 4)

One of the first descriptions of the histologic features of osteolipoma in the region of the tuber cinereum has been made by Chiari [2]. In his article he already mentioned a handful of similiar cases (described by Heschl, Meckel and Virchow). In a literature review published in 1977, Friede [3] has collected a series of 22 lipomas/osteolipomas reported since 1879 (including the two cases of Chiari). In the more recent literature there are further reports, mostly case reports [4–11].

Since their description there was a controversy about their nature (*e.g.* true neoplasia *vs.* hamartoma *vs.* malformation).

Because intracranial lipomas are encountered mainly along midline structures, such as the corpsus callosum, the lamina quadrigemina or as in our case the hypothalamic region, today's

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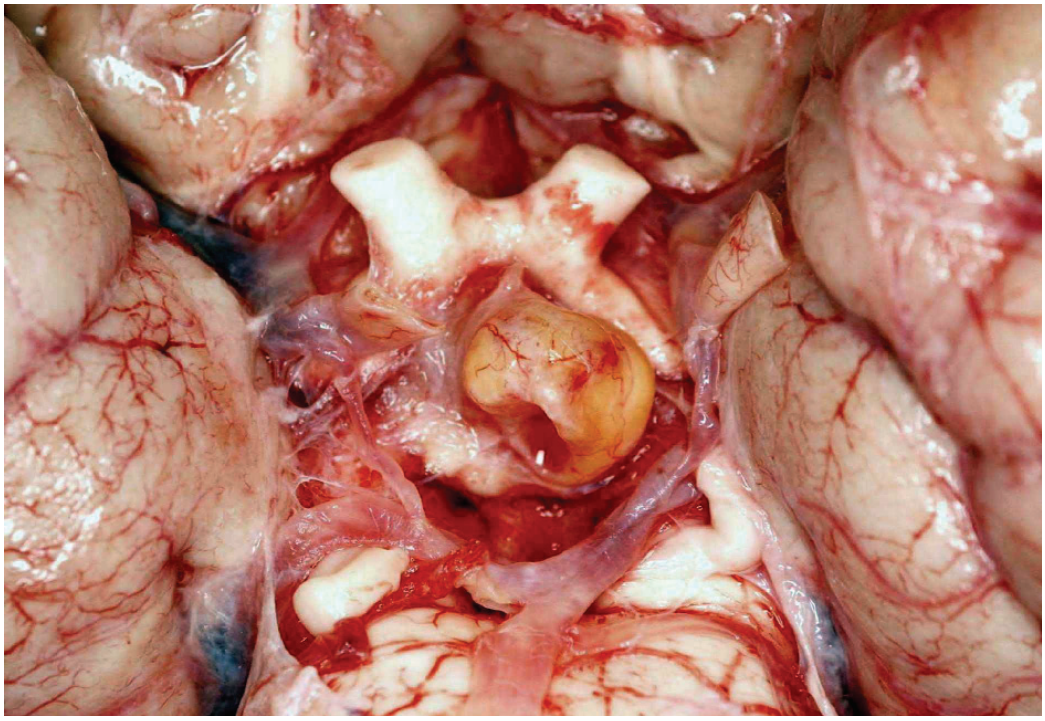

Fig. 1 View on the base of the brain: on the top the most proximal parts of the *tracti olfactorii* and the *nervi optici* with their chiasma. The infundibulum as well as the *corpora mamillaria* are displaced to the right by the yellowish tumour originating from the left tuber cinereum

opinion is, that they are most probably malformative lesions [1, 11]. According to some authors an osseous component seems not always to be present [3, 11]. When present the bone trabecula have a somewhat irregular architecture, a hint of their probably reactive nature.

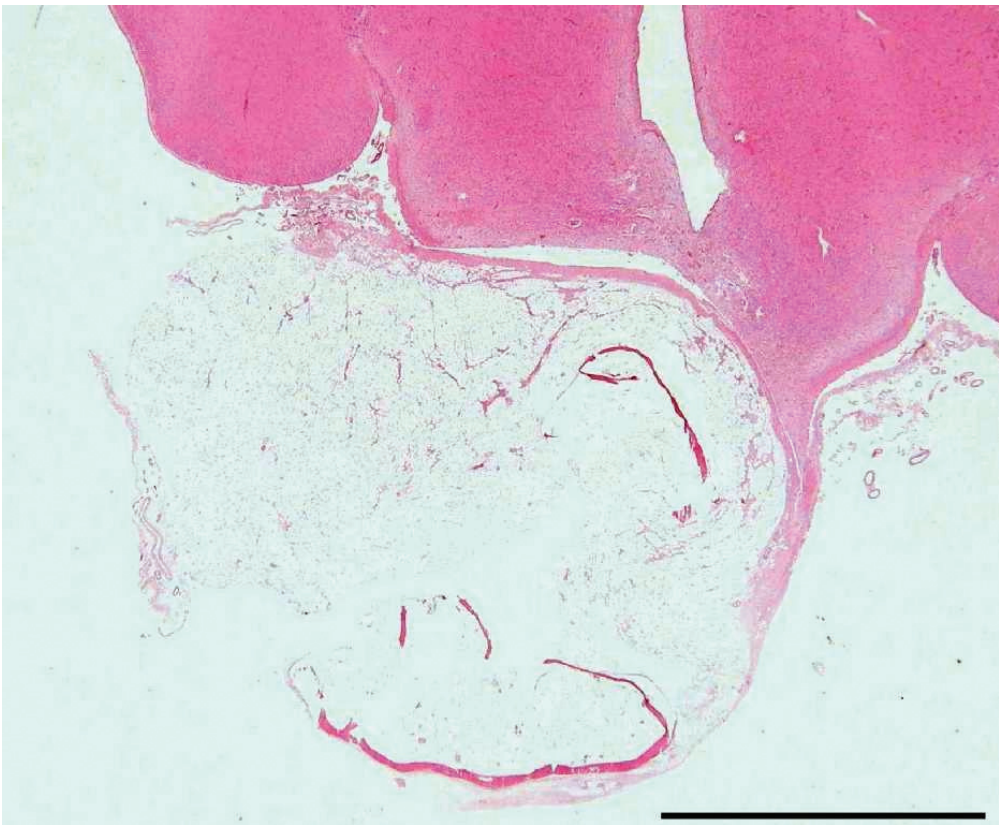

Fig. 2 Histology of the tumour at scanning magnification (H&E): On the upper half the recessus infundibuli of the IIIrd ventricle. The left tuber cinereum is displaced cranially, the right tuber cinereum laterally by the lipomatous tumour. It shows a capsule composed in part of connective tissue and in part of bone. Some bony trabecula are also detectable inside (bar: x 0.5 cm).

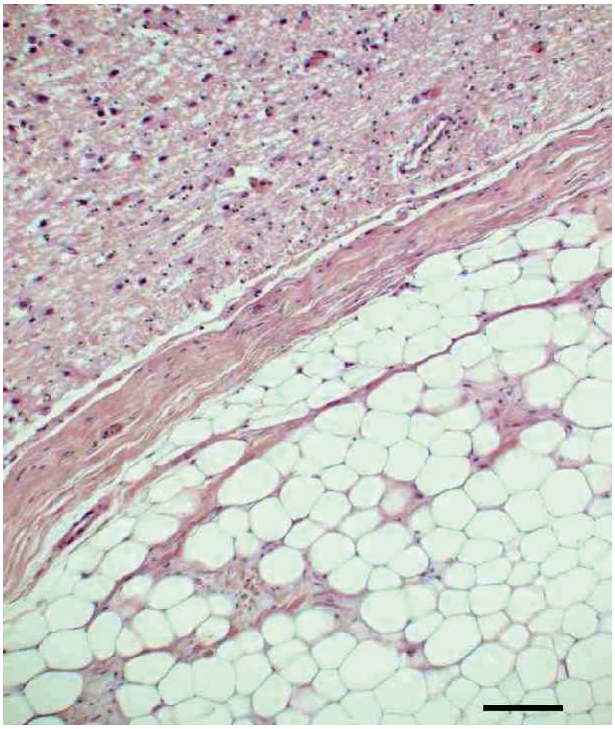

Fig. 3 View on the attachment site of the osteolipoma (H&E): On the upper left the slightly gliotic brain tissue. On the lower right mature fat tissue separated from the brain by a capsule of connective tissue (bar: 100 µm).

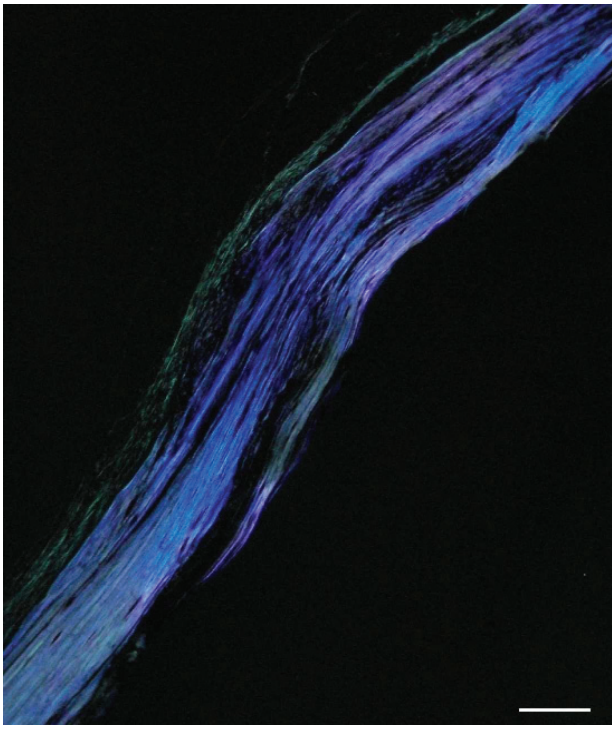

Fig. 4 Histology of the bony tumour compartment (Giemsa, birefringence): Although of lamellated type, the bone shows somewhat irregular intersecting lines (bar: 100 µm).

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