Clinical Aspects of Spontaneous Necrosis of Pituitary Tumors (Pituitary Apoplexy)

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Summary. Among 586 surgically treated tumors of the pituitary gland 72 cases (12.3%) of spontaneous necrosis of the tumor were found. However only in 10 cases (1.7%) were there clues of an additional rupture of the tumor with signs of meningeal reaction in the CSF. Cases with a relatively benign clinical course and signs of regression are more frequent than generally assumed. Spontaneous necrosis with and without rupture is much more frequent in endocrinologically inactive tumors (including prolactinomas) as opposed to STH- and ACTH-cell adenomas. Analyzing the patient material the clinical symptomatology and the differential diagnosis of spontaneous necrosis of the tumor with and without rupture are discussed.

Key words: Pituitary adenoma – Necrosis of tumor – Pituitary apoplexy


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Introduction

Because of the classical first descriptions [1, 2, 6] on the basis of neuropathological observations, it was long held that spontaneous necrosis of pituitary gland tumors (so-called pituitary apoplexy) was always a dramatic life threatening disease. Single clinical observations [4, 5, 8] showed, however, that this was not always the case. Our own experience attest to the frequent benign course of this disease, without any evidence of additional rupture of the capsule of the tumor, e.g. without any meningeal reaction in the CSF. Such cases are comparatively frequent with the tendency to spontaneous regression of the symptoms. Under these circumstances ignorance of the course and misinterpretations of the clinical syndrome is easy. In the following analysis of our patient material (72 cases), we point out the details of the clinical symptomatology and the differential diagnostic approach.

Patient Material and Results

Since 1970 we have found 72 cases (12.3%) among 586 pituitary tumors operated by transnasal hypophysectomy and verified histologically, in which there were extended cystic necrotic areas, most frequently with a hemorrhagic component. In some cases acute spontaneous hemorrhage into the tumor had been detected by CT scan (Fig. 1). Transnasal removal of the tumor was uneventful in all cases. In order to determine the extent of the cystic component of the tumor, an intraoperative X-ray can be made after filling the tumor cavity with Dimer X (Fig. 2). In Table 1 our cases are compiled based on the underlying type of tumor. In 62 cases (10.6%) necrosis of the tumor was found without any clear-cut evidence of rupture of the capsule. The CSF was bloody, xanthochromic and/or contained WBC in 10 cases (1.7%) which indicated beyond doubt

Fig. 1. CT scan of 66-year-old man with acute third nerve palsy due to spontaneous hemorrhage into a prolactinoma. The hemorrhagic tumor mass is visible without contrast enhancement