

Pituitary tumours

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Most tumours in the sellar region are benign pituitary adenomas, but pathology in this region can also include malignant variants as well as craniopharyngiomas, meningiomas, aneurysms and Rathke's cleft cysts (Figure 48.26). Microadenomas are less than 10 mm in size and usually present incidentally or with endocrine effects . Macroadenomas are larger than 10 mm and often present with visual field deficits. Thirty per cent of adenomas are prolactinomas, 20% are non-functioning, 15% secrete growth hormone and 10% secrete adrenocorticotrophic hormone (ACTH). Features of note in the initial assessment include any history of galactorrhoea (suggestive of prolactinoma) and Cushingoid or acromegalic features pointing to ACTH- or growth hormone- secreting tumours, respectively . Baseline assessment of pituitary function should include serum prolactin, follicle-stimulating hormone and luteinising hormone together with testosterone in males or oestradiol in females, thyroid function tests and fasting serum growth hormone and cortisol. Preoperative prolactin levels are crucial since prolactinomas may be managed with dopamine agonists such as bromocriptine and cabergoline rather than surgery . Growth hormone-secreting tumours may also respond to dopamine agonists or to somatostatin analogues such as octreotide. The cortisol level is also important since deficiency must be corrected, especially in the perioperative period. Diagnosis of ACTH-secreting tumours can be difficult and may require the use of specialised tests such as petrosal sinus sampling and the dexamethasone suppression test. Effective treatment requires close cooperation between the neurosurgical team and an endocrinologist. Compression of the chiasm with any evidence of visual compromise is the main indication for urgent surgical intervention. Surgical resection is usually performed by a transsphenoidal approach through the nose, using a microscope or endoscope. Sometimes large tumours also require a craniotomy . After operation patients are at risk of CSF leak and pituitary insufficiency . Diabetes insipidus resulting from manipulation of the pituitary stalk is possible in the immediate post operative period and usually resolves spontaneously . Where it is suspected, the patient will require hourly measurement of urine output and blood and urine samples for calculation of sodium concentration and osmolality . If confirmed, the condition can be managed with desmopressin in consultation with endocrinology . Pituitary apoplexy is a syndrome associated with haemorrhage or infarction in a pituitary tumour. It presents with sudden headache, visual loss and ophthalmoplegia with or without impaired conscious level. Endocrine resuscitation with intravenous steroids is the priority and surgical decompression may be required.

Figure 48.25 On T1-weighted magnetic resonance imaging an extra-axial, durally based lesion is seen to arise in the region of the falx. This is a meningioma. Figure 48.26 Non-functioning pituitary macroadenoma (arrow) compressing the optic chiasm superiorly, extending into the right

cavernous sinus and encasing the right carotid artery.

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