DEFINITION

1. These are tumours of the pituitary gland which can be divided into 8 groups, based on histological, immunocytological and electron microscopic criteria.

CLASSIFICATION

1.1 **Growth hormone adenoma.**

1.2 **Prolactin cell adenoma.**

1.3 **Mixed growth hormone-prolactin cell adenoma.** These are associated with acromegaly and occasionally with the amenorrhoea, galactorrhoea syndrome.

1.4 **Acidophil stem-cell adenoma.** These are not accompanied by acromegaly or increased growth hormone (GH) levels but sometimes cause hyperprolactinaemia.

1.5 **Corticotroph cell adenoma.** These may result in Cushing's disease or Nelson's syndrome or may be non-secretory.

1.6 **Thyrotroph cell adenoma.**

1.7 **Gonadotroph cell adenoma.**

1.8 **Undifferentiated cell adenoma.** These do not secrete any known hormones.

CLINICAL MANIFESTATIONS

2. These tumours produce their effects in three ways -

2.1 **Hormone hypersecretion by the tumour cells**. According to the type of cell involved, this may result in acromegaly and gigantism (from increased GH secretion), hyperprolactinaemia (from increased secretion of prolactin), Cushing's disease (from increased secretion of adrenocorticotrophic hormone - ACTH) or hyperthyroidism (from increased secretion of thyroid stimulating hormone - TSH).

2.2 **Damage to the normal pituitary gland**. This causes hypopituitarism, the features of which are largely dependent on the age and sex. In adults the first effects usually result from deficiency of gonadotrophin and include loss of libido and sterility, amenorrhoea in women and impotence in men. Deficiency of TSH may cause hypothyroidism. The adrenal response to stress may be impaired and there may be increased sensitivity to insulin.

2.3 **Pressure symptoms and signs**. Headache is often an early symptom. Vomiting is usually absent, except in the late stages. As the optic chiasma is adjacent to the pituitary gland, visual field defects are an important and early manifestation. Bi-temporal hemianopia is the field defect most often found. It is usually asymmetrical. Less frequently there is a homonymous hemianopia. Compression of the optic chiasma also causes optic atrophy. Other manifestations of pressure include ocular palsies and cerebrospinal fluid rhinorrhoea with meningitis. Cerebral symptoms do not occur until the tumour has expanded beyond the sella turcica.

2.4 **"Pituitary apoplexy."** This is a rare presentation caused by infarction in a rapidly growing tumour. It gives rise to intense headache, prostration and possibly loss of consciousness with subarachnoid haemorrhage.

AETIOLOGY

3. Most pituitary adenomas arise spontaneously within the pituitary gland. The aetiology of these is unknown. There is no evidence to link their aetiology with environmental factors.

4. Adenomas may arise as a result of long-standing target organ insufficiency, e.g. in hypothyroidism, Addison's disease or primary gonadal failure. These are known as **feedback** tumours. They may occasionally form part of the multiple endocrine neoplasia type I syndrome when they are associated with tumours of the parathyroid, adrenal cortex or pancreas. Rarely an acidophil adenoma is associated with a phaeochromocytoma. The aetiology in these cases is that of the underlying condition.

CONCLUSION

5. **Pituitary adenomata** are tumours of the pituitary gland. They are classified into various types. They may arise spontaneously, in which case the aetiology is unknown, or they may arise as a secondary manifestation of some other condition, in which case the aetiology is that of the underlying condition.

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7th December 1992