CASE REPORT

AN UNUSUAL CASE OF ACROMEGALY

A 36-year-old man presented with a 3-year history of headaches, visual deterioration, and hypothalamic features, including somnolence and compulsive eating, which are unusual in acromegaly. Examination revealed both generalised and central obesity, coarsened facial features, acanthosis nigricans, skin tags and large hands and feet (Figs 1 and 2), and also marked loss of visual acuity.

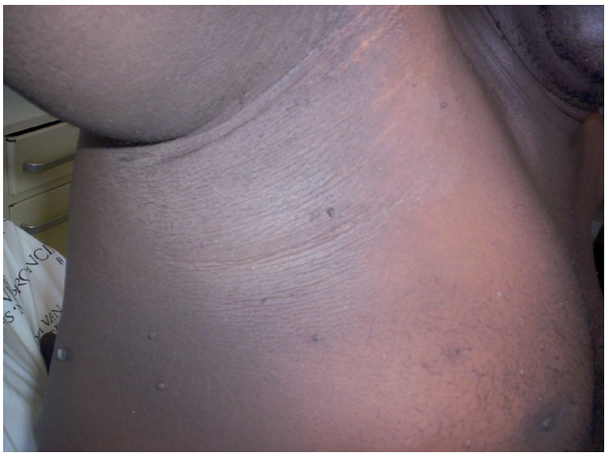

Fig.1. Acanthosis nigricans and skin tags of the axilla.

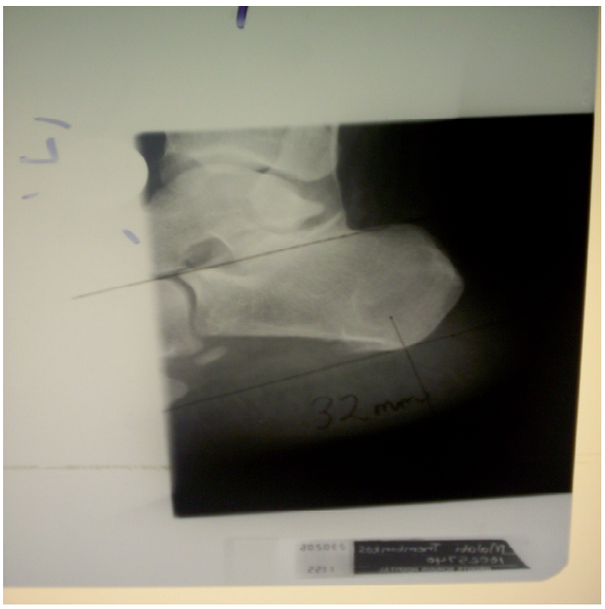

Fig. 2. Increased heel pad thickness.

Pituitary MRI (Fig. 3) demonstrated a large tumour. Because the differential diagnosis included a pituitary adenoma and a meningioma, a biopsy was undertaken. This showed a mammosomatotroph cell adenoma, immunocytochemically positive in all cells for growth hormone (GH) and prolactin (Fig. 4). Investigations (Table I) confirmed acromegaly with

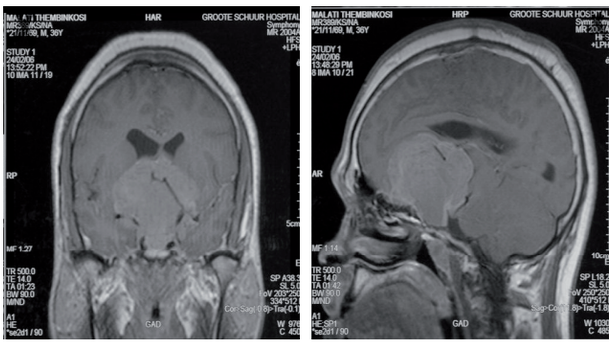

Fig. 3. Pituitary MRI showing very well-defined, lobulated, inhomogeneous enhancing sellar and suprasellar mass. There is extension into cavernous sinuses, anteriorly into sphenoid sinuses, posteriorly with mild compression of brain stem, superiorly causing obstruction at V3 + mild entrapment hydrocephalus. Both internal carotids are encased by tumour, but are patent.

partial anterior hypopituitarism. Biochemical Investigations These results confirm (a) hypogonadotrophic hypogonadism, (b) pituitary hypothyroidism, (c) hypoprolactinaemia, (d) intact pituitary adrenal axis, and (e) vastly elevated growth hormone levels.

The low serum prolactin was unusual, but immunocytochemistry demonstrated only synthesised, but neither secreted nor absorbed hormone. Electron-dense extracellular material, reminiscent of misplaced exocytosis of prolactin-secreting adenomas, characterises mammosomatotroph adenomas and this could be implicated in the non-correlation between tissue and serum prolactin level.

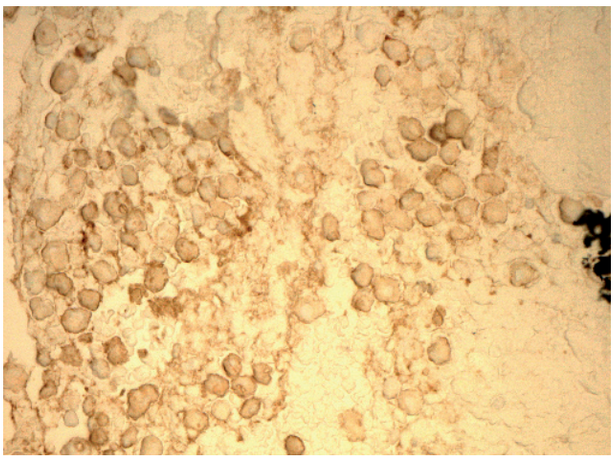

Fig. 4. Immunocytochemical staining. Immunocytochemically two populations of cells with densely granulated GH-positive (A) and sparsely granulated PRL-positive (B) reactions were present. This was not confirmed on ultrastructural examination at which only a single cell type with a monomorphic population of neurosecretory granules was found.

While transsphenoidal surgery is the treatment of choice for acromegaly, the risks were considered too great in this patient. Radiotherapy was not considered as initial therapy in view of its delayed effect. Primary medical therapy (PMT) in acromegaly with octreotide reduces GH in 68% of patients within weeks of initiation, reduces tumour bulk and may improve outcome when used pre-surgically. Side-effects are mainly gastrointestinal, but cost is the major limiting factor. Monthly PMT with donated Sandostatin LAR was initiated with subjective improvement of headaches and visual acuity. A debulking procedure will be considered once deemed safe.

Further reading

Archer DF, Salazar H, Maroon JC, *et al.* Prolactin-secreting pituitary adenomas: serum and tissue prolactin levels with ultrastructural correlation. *Am J Obstet Gynecol* 1980; **137**: 646.

Cozzi R, Montini M, Attanasio R, *et al.* Primary treatment of acromegaly with octreotide LAR: a long-term (up to nine years) prospective study of its efficacy in the control of disease activity and tumor shrinkage. *J Clin Endocrinol Metab* 2006; **91**: 1397-1403.

Melmed S, Casanueva F, Cavagnini F, *et al.* Consensus statement: medical management of acromegaly. *Eur J Endocrinol* 2005; **153**: 737-740.

Bhardwaj V, *et al. BMJ* 2006; **332:** 1259-1260.

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Table I. **Biochemical investigations**

Date	Test	Result	Reference range
21/02/06	↓ FSH(a)	0.9	1.5 - 12.4 IU/l
	↓LH(a)	< 0.1	0.4 - 5.5 mIU/ml
	↓Testosterone(a)	2.1	9.9 - 27.8 nmol/l
	↓FT4(b)	10.7	12 - 22 pmol/l
	TSH(b)	1.78	0.27 - 4.20 mIU/l
	↓ Prolactin(c)	0.7	4.6 - 21.4 µmol/l
	Synacthen test (d) 0 min cortisol 30 min cortisol	 368 610	 171 - 536 nmol/l
3/03/06	↑↑↑Random human growth hormone(e)	3 574.0	0.2 - 7.0 µg/l
	Insulin-like growth factor 1(e)	923.0	109.0 - 284 µg/l