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Acromegaly with Hirsutism A Hairy Case

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Abstract
Hirsuitism is very common in women of reproductive age (5-7%) and has been classically associated with polycystic ovarian syndrome (PCOS). Hirsutism is not considered to be a prominent feature of acromegaly A 35 year lady presented to the Endocrinology Clinic with complaints of increased facial hair, body hair and acne of 8 years duration associated with coarse facial feature(broad nose, large lip), deepening of voice, increase muscle mass . She complained of Headache since 5 years which increased since 4 months. She denied history increased ring or shoe size, diplopia/decrease vision, abdominal striae proximal muscle weakness. Examination was significant for normal blood pressure, body mass index-23.48 kg/m^2 acne, hirsuitism (modified Ferriman Gallwey Score-20/36), bulbous lips and woody nose (figure 1). She have deepening of voice, macroglossia, spacing of teeth in lower jaw, acral enlargement, increased muscle mass, increased sweating. Investigations were significant for elevated IGF-1 (622 ng/ml; normal: 116-384 ng/ml), basal growth hormone (32.20 ng/ml) and post glucose growth hormone (29.20 ng/ml), elevated androgens. Automated perimetry was normal. Colonoscopy revealed normal colonic mucosa. Ultrasonography abdomen revealed enlarged bilateral ovaries, presence of peripheral arranged multiple follicles. MRI brain revealed a sellar mass with significant suprasellar extension suggestive of pituitary macroadenoma.

Introduction

Hirsuitism is a common problem of women in reproductive age effecting 5-7% of the female population and is most commonly due to underlying metabolic and endocrine abnormalities as a part of polycystic ovarian syndrome (PCOS).[1] However in rare cases, it may be the initial presentation of a more serious and life threatening disorder like adrenal or ovarian tumours, Cushing's syndrome, or acromegaly. Acromegaly is a rare disorder (prevalence 30-80 cases per million population) and is associated with 3 fold increased in mortality as compared to the general population mainly due to increased cardiovascular morbidity and cancer

Case report

A 35 year lady presented to the Endocrinology Clinic with complaints of increased facial hair, body hair and acne of 8 years duration associated with coarse facial feature(broad nose, large lip), deepening of voice, increase muscle mass. She complained of Headache since 5 years which increased since 4 months. She denied history increased ring or shoe size, diplopia/decrease vision, abdominal striae proximal muscle weakness. Examination was significant for normal blood pressure, body mass index-23.48 kg/m^2 acne, hirsuitism (modified Ferriman Gallwey Score-20/36), bulbous lips and woody nose (figure 1). She have deepening of voice, macroglossia,

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Table 1: Hormonal and biochemical parameters at the time of diagnosis

Parameter	Value
IGF-1 (ng/ml) (116-384)	622
Growth Hormone (Basal) (ng/ml)	32.20
Growth Hormone (1hour post 75 gm anhydrous glucose) (ng/ml) (0-0.4)	29.20
8 am cortisol (mcg/dl)	4.82
Prolactin (ng/ml) (<25)	5.10
Free thyroxine (ng/dl) (0.9-1.8)	1.17
TSH (mIU/ml)	.81
Androstenedione (ng/ml) (0.3-3.5)	6
DHEAS (mcg/dl) (35-430)	210
Testosterone (ng/ml) (<0.8)	0.83
Fasting blood glucose (mg/dl) (<100)	118
Fasting insulin (mIU/L)	20

Figure 1: Facial profile of patient showing woody nose, bulbous lips,

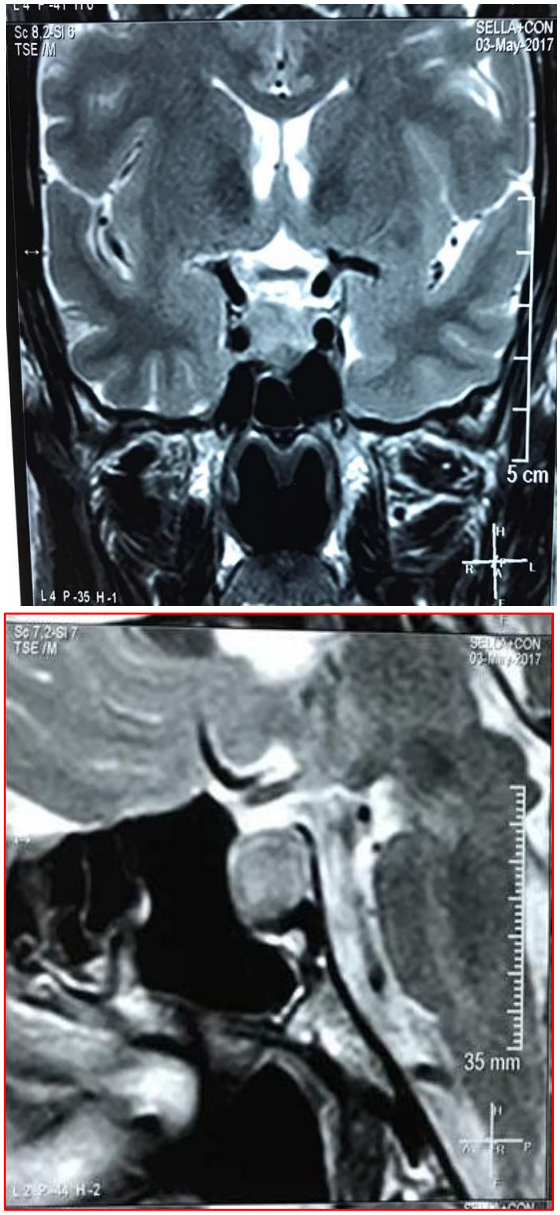

Figure 2: (a) Coronal section of T1W MRI brain showing pituitary macroadenoma with suprasellar extension (b) Sagittal section of T1W MRI brain showing pituitary macroadenoma.Posterior pituitary not visualized

Discussion

Hirsutism is excessive body hair in androgen sensitive regions of the body of a women on parts of the body where hair is normally absent or minimal, such as on the chin or chest in particular or the face where hair is normally absent, most commonly due due to polycystic ovarian syndrome (PCOS)[1]. The amount and location of the hair is measured by a Feriman-Gallwey score. It is different from hypertrichosis, which is excessive hair growth anywhere on the body.

Hirsutism is usually the result of an underlying endocrine imbalance which may be adrenal, ovarianor central[2]. It is also well known that severe insulin resistance *per se* may be associated with acromegaloid phenotype[3(dutta)]

Hirsuitism though not uncommon in acromegaly usually never the predominant presenting feature. In a series of patients with acromegaly, 24% had hirsuitism. PCOS is common in acromegaly seen in as many as 50% of patients.[2] dutta PCOS was diagnosed in our patient in view of clinical [Figure 1] and biochemical evidence of hyperandrogenism [Table 1], with radiologic evidence of polycystic ovaries (Rotterdam criteria). She had elevated serum testosterone, high serum androstenedione with normal DHEAS [Table 1], confirming that ovary was the source of this androgen excess.

Acromegaly was diagnosed in our patient in view of biochemical evidence of increased growth hormone, IGF-1and pituitary macroadenoma. She did not have the classical features of acromegaly except for the broad nose, bulbous lips, increase muscle mass and history of chronic headache. The cause of hirsuitism in acromegaly is not well known. GH decreases sex hormone binding globulin (SHBG) levels, which leads to increased free testosterone levels in patients of acromegaly with normal testosterone levels[4]. GH directly, indirectly through increased IGF-1, insulin resistance and hyperinsulinemia is believed to increase ovarian androgen production which may have a role in the development of hirsuitism[4].

A lookout for subtle features of acromegaly in all patients with hirsuitism and going for biochemical evaluation may help us in picking up more patients of acromegaly at an earlier stage of the disease.

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