

Ovarian Leydig cell hyperplasia-An unusual cause of hyperandrogenism in a post menopausal woman with a possible familial link.

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Introduction:

- Hyperandrogenemia causing virilisation should prompt search for adrenal or ovarian tumours.
- Ovarian pathology is commoner than adrenal.
- Negative imaging of the ovaries does not completely rule out ovarian source.
- We report a case of ovarian leydig cell hyperplasia causing virilisation in a post menopausal woman with a family history.

Case Presentation:

- A 60 year old lady was referred with male pattern hair loss and facial hirsutism of 5-7years duration. She was otherwise well and had 2 children in their 30's.
- She was not taking any medication and reported a normal menstrual cycle prior to menopause at the age of 50.
- Her androgen profile and pituitary function tests are in table 1.
- CT of adrenals showed no evidence of tumour.
- Pelvic US showed a normal right ovary, left ovary not visualized.
- She subsequently underwent bilateral oophorectomy.
- Ovarian histopathology indicated bilateral Leydig cell hyperplasia.
- Her testosterone level normalized to 1.3 nmol/L three months after surgery.
- Interestingly her elder sister also had bilateral oophorectomy 3 years earlier for testosterone level of 7nmol/L with clinical evidence of virilisation. Her ovarian histology was unremarkable. In light of family history her slides were re-examined by our Histopathologist.
- No evidence of Leydig cell Hyperplasia was seen but it was suggested that this could be focal and therefore not present in the tissue sampled.

Discussion:

- Leydig cell hyperplasia causing hyperandrogenism in women is rare with several case reports only in the literature.
- This case raises the possibility of a genetic component which has been described in males due to LH receptor mutations but never reported in females to the best of our knowledge. Our patient has not yet have genetic testing.
- Physicians should take Family history into account when dealing with similar cases.
- Normal ovarian imaging does not exclude an ovarian source of hyperandrogenism.
- Bilateral oophorectomy is a safe and effective procedure after excluding an adrenal source in a post menopausal woman.

Testosterone	6.1 nmol/L (NR <2.5)
Androstenedione	3.8 nmol/L (NR:0.7 – 3.8)
DHEAS	5.7micromole/L(NR:0.80 – 4.9)
FAI	17.9 % (NR: 0.1 – 2.6)
SHBG	33 nmol/L
LH	22 IU/L (Post menopausal range)
FSH	59.6 IU/L (post menopausal range)
TFTs	Normal

Table 1: Androgen and pituitary profile