A case of Postmenopausal Hyperandrogenism

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Introduction

- New onset hyperandrogenism in extremely rare in postmenopausal women.
- Identifying the right cause can be challenging.

Case report

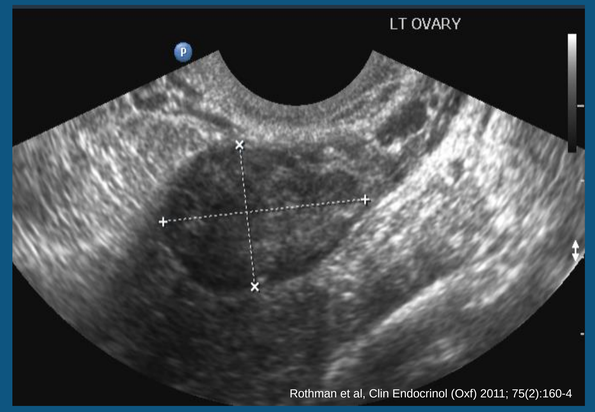
- 71-year-old female presenting with male pattern hair loss, hair growth, deepening of her voice, increase in muscle mass, increase in libido and clitoromegaly.
- PMH: prediabetes, hyperlipidemia, hypertension
- Medications: Amlodipine, losartan and simvastatin.
- FH: daughter with PCOS at age 18
- PE: VS BP 160/90, HR 80, BMI 25.5
  - ❖no Cushingoid features, **+ hirsutism Ferriman Gallwey score 14, +significant muscle tome in arms and calves, + clitoromegaly**

Laboratory data

- Total testosterone 228 ng/dL (normal range <50 ng/mL)
- DHEAS 20 mcg/dL (reg range 9.7-159 mcg/dL)
- Estradiol 19pg/mL, FSH 53.9 IU/L, LH 31.1 IU/L
- 17OH progesterone 88 ng/dL, ACTH stimulated 17OH progesterone within normal limits
- Dexamethasone suppression test - am cortisol 0.7 mcg/dL
- TSH 1.81 uIU/ml (0.51-6.27 uIU/ml)

Imaging

Pelvic US: initially reported as normal!
MRI abdomen: normal adrenals



Differential Diagnosis

DDX of Adult Onset Hyperandrogenism

- PCOS
- Exogenous androgen use
- Late onset CAH
- Androgen secreting tumor
- Ovarian hyperthecosis

References

1. Rothman et al, Clin Endocrinol (Oxf) 2011; 75(2):160-4
2. Goldman et al postgrad Med 1991;67:304
3. Barth et al Clin Endocrinol (Oxf) 1997;46:123

How to make the diagnosis

❖**CLINICAL PRESENTATION**
Postmenopausal onset rules out PCOS & late onset CAH
Slow progression and normal imaging is against an adrenal carcinoma

❖**HORMONE PROFILE Elevated T with normal DHEAS favors an ovarian vs adrenal source**

❖**IMAGING Even though the initial report mentioned normal ovaries, both of her ovaries were enlarged for her age! Bilateral ovarian enlargement would not be seen with exogenous androgen use.**

Diagnosis of ovarian hyperthecosis

- **Pathologic dx: nests of luteinized cells scattered in hyperplastic ovarian stroma**
- Clinical presentation:
  - ✓ **Hirsutism, frontal balding, clitoral enlargement, deepening of voice**
  - ✓ **Insulin resistance**
- Transvaginal U/S: **Bilateral ovarian enlargement**

Therapy of ovarian hyperthecosis

- In post menopausal women bilateral oophorectomy provides definitive solution.
- Long term GnRH agonist treatment can be given in women who are not surgical candidates.