

Location: office

Presenting complaint: A 22-year-old woman presents with hirsutism.

Vitals: Pulse:80/min; BP: 122/82 mm Hg; Temp: 98.7 F, R.R: 16/min; Height:162.5cm; Weight: 90 kg (198lbs).

HPI:

A 20-year-old obese white female comes to the physician office with the complaint of male pattern body hair. She states that besides facial hair, hair is also present on her chest and on the lower abdomen. Her other complaints are amenorrhea for the last 4 months and obesity. She states that her menses have always been irregular since her first menses at the age of 14 years. She neither smokes nor drinks alcohol. She is not using any prescribed or recreational drugs. She has never been sexually active. She denies any other complaints. She is allergic to penicillin. FH: Father is healthy. Mother has a H/O DM. She does not use any recreational drugs. She is un-married. ROS are unremarkable.

How to approach this case?

Important points to note in this young female are hirsutism, secondary amenorrhea, and obesity. These findings point towards the diagnosis of polycystic ovarian disease (PCOD). Other possible causes are hyperprolactinemia, late onset congenital adrenal hyperplasia, and androgen secreting tumors. Diseases like Cushing's syndrome and hypothyroidism also need to be ruled out as a cause of obesity.

This patient is very stable and is coming for evaluation first time with you. So, she needs complete physical examination. We also need to examine her skin for pattern of hair distribution, and genitalia for any evidence of virilization.

Ok first order the examination part:

Complete physical examination (or)

General, HEENT/Neck, Lymphadenopathy, Lungs, Heart, Abdomen, Pelvic exam, Extremities, Skin, and Neuropsychiatric.

Here are the results of your examination:

Young obese female, not in acute distress. Hair are noted on the upper lip, chin, around nipples, and on linea alba.

Rest of the examination is normal.

Discussion:

The most widely used criteria for the diagnosis of PCOS is:

1. Clinical or biochemical evidence of hyperandrogenism
2. Menstrual dysfunction (Fewer than 6-9 cycles per year)
3. Exclusion of other common causes of hyperandrogenism

Many biochemical abnormalities are encountered in cases of PCOS. These include high serum androgens, high serum estrone with normal serum estradiol, high serum LH with normal serum FSH, and impaired glucose tolerance. Both total and free serum testosterone concentration is elevated. Finding of polycystic ovaries on USG is nonspecific for the diagnosis of PCOS.

Differential diagnosis:

PCOS is a diagnosis of exclusion. PCOS and idiopathic hirsutism account for more than 95 percent cases of hyperandrogenism in females. Other causes are late-onset congenital adrenal hyperplasia, ovarian and adrenal tumors, drugs and hyperprolactinemia. In cases of hyperprolactinemia, menstrual dysfunction is prominent without any evidence of hyperandrogenism and serum prolactin levels are elevated. 24 hour urine cortisol, and 17-ketosteroids are indicated for suspected Cushing's syndrome. Late onset congenital adrenal hyperplasia is a rare disorder and can be ruled out by post-ACTH serum 17-hydroxyprogesterone levels.

In cases of androgen-secreting tumors, there are signs of virilization and serum LH

concentration is low. Serum testosterone (>150 ng/dl) and serum dehydroepiandrosterone (>800ug/dl) levels are high in ovarian and adrenal tumors respectively.

Order routine labs:

Urine testing for beta-HCG (as she has history of amenorrhea)
Serum testosterone total and free
Serum DHEAS
Serum prolactin
24-hour urine cortisol
24-hour urine 17-ketosteroids
Serum TSH
Serum LH
Serum FSH
Pelvic ultrasound, routine
Follow up visit when results are available.

Results of labs:

Urine testing for beta-HCG: negative
Serum testosterone total and free: total is 100ng/dl and free is 5ng/dl
Serum DHEAS: normal
Serum prolactin: 10ng/ml
Serum cortisol: normal
Serum TSH: 1microU/L
Serum LH: 60 IU/L
Serum FSH: 15 IU/L
Pelvic ultrasound: Ovaries shows peripheral "strings of pearls" sign.

TREATMENT:

All women with the diagnosis of PCOS should be initially evaluated for metabolic risk factors. The most common metabolic abnormality associated with PCOD is type 2 DM and impaired glucose tolerance. Measurement of weight, blood pressure, and fasting lipids are recommended in all patients. 2-hour glucose tolerance test with 75 g of oral glucose load is indicated in obese women with PCOD. Routine measurement of serum insulin levels is not indicated for various reasons.

Weight reduction in obese females and use of drugs that decrease insulin resistance in both obese and non-obese reverse many abnormalities of PCOS. The drugs used for this purpose are metformin, troglitazone, and D-chiro-inositol. Unopposed estrogen action may result in endometrial hyperplasia and endometrial Ca. To decrease this risk, OCPs are given and progestin present in them antagonizes the effect of estrogen. Another benefit of this therapy is inhibition of androgen production and increase in sex-hormone binding globulin levels. OCPs are therefore the treatment of choice for women who don't want to conceive. Patients with PCOS who have evidence of DM should be treated with metformin. Metformin is preferable over thiazolidinediones for possible teratogenicity. OCPs are indicated in conjunction with metformin if they do not want to become pregnant. For hirsutism, hair is removed by shaving, electrolysis, laser treatment, and depilatories. Hair growth is slowed by an OCP alone or an OCP combined with antiandrogen. In cases of infertility, other possible causes of infertility are first ruled out by appropriate testing and only then ovulation induction is attempted. Clomiphene citrate is usually used for this purpose. Other agents include GnRH and exogenous gonadotrophins. Patient's with LDL of more than 160 without risk factors, or >130 with risk factors, >100 with known CAD should be treated with HMG-CoA inhibitor.

ORDER REVIEW:

Fasting lipid profile
Glucose tolerance test
Counsel the patient/Patient education
Weight reduction
Low fat, low caloric diet
Regular exercise
OCPs

Pap smear

Follow up in 1 week with the results

Primary Diagnosis:

PCOD

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