WOMEN'S HEALTH

SJHHC 43rd Annual Family Medicine Refresher Course
Small Group Session
March 6th, 2104

Dr. Kristen McNamara
Dr. Anne Johnson, PGY-3
Case Report

32 year old Hispanic female presents to the Family Medicine Center with a complaint of amenorrhea. Urine pregnancy test is negative.
History of present illness

No menstrual period for 4 months.

Associated symptoms: abdominal fullness, occasional dyspareunia, swelling in fingers, thinning hair, acne, weight gain, and fatigue.

Patient has been seen 5 times in the last 3 years for complaints of oligomenorrhea and occasionally menorrhagia. Laboratory tests were done 2 years ago, within normal limits.
Past medical, surgical and family history

Past medical history
- Migraine Headaches
- Anxiety
- ASCUS pap 1 year ago
- Irregular periods since puberty
- Nulligravid

Past Surgical History
- none

Family History
- Strong family history of DM type II, including 2 first-degree relatives
- Obesity

Social History
- No tobacco or significant alcohol use
- exercises 4-5 times per week, no history of obesity
Physical exam and diagnostic tests

ÂVitals: BP 125/82, HR 60, RR 16,
ÂBMI 24.5, within normal limits
ÂWaist-hip ratio 0.9 (central adiposity)
ÂThinning hair, especially on crown
ÂMildly tender in right and left lower quadrants of abdomen, no guarding or rebound tenderness.

Review of chart finds a transvaginal pelvic ultrasound 2 years prior revealing ñmultiple small follicles in ovaries bilaterallyñ
Differential diagnosis of amenorrhea

- Pregnancy
- Primary Ovarian failure
- Androgen secreting tumor
- Thyroid disease
- Prolactin disorder
- Exogenous Androgens
- Cushing syndrome (rare, only 1 in 1,000,000)
- Non classical congenital adrenal hyperplasia (genetic defect in a steroidogenic enzyme, 21-hydroxylase)
- Acromegaly
- Genetic defects in insulin action
- Primary hypothalamic amenorrhea
Diagnostic Criteria for Polycystic Ovary Syndrome

Rotterdam Consensus Criteria 2003

2 of 3

Hirsutism (Hyperandrogenism)
- Acne, course hair in androgen-dependent areas, alopecia

Oligomenorrhea or amenorrhea
- A small percentage have normal cycles
- Progressive

Polycystic Ovaries on ultrasound
- 8 or more follicles, each less than 10mm
- Polycystic ovaries are present in 25% of normal women
Polycystic Ovary Syndrome

- Affects 6% of women of reproductive age
- Underlying disorder is insulin resistance
- Strong overlap with metabolic syndrome
- Heterogeneous and progressive syndrome
- 20% of women with PCOS are not obese
Suggested laboratory testing (diagnosis)

Urine and serum Beta HCG
TSH
Prolactin level
  - Mild elevations are common in women with PCOS
  - Rules out prolactinoma
FSH and LH
  - Rules out premature ovarian failure
  - 3:1 ratio of LH to FSH is diagnostic to some experts
Testosterone Levels

Consider:
  - Endometrial Biopsy (in patients with menorrhagia, or women over 30)
  - DHEAS levels (androgen secreting tumor)
  - Fasting 17-hydroxyprogesterone (for nonclassical CAH)
  - Dexamethasone suppression test
Screening for associated conditions

Diabetes type II
- 2 to 5 times greater risk of DM II
- 11-40% of women with PCOS over age 30 have DMII
- Conversion to impaired glucose tolerance ~ 20% per year
  Screening test: 2 hr GTT

Dyslipidemia
- 70% of women with PCOS have borderline or high lipid levels
  Screening test: fasting lipid panel

Cardiovascular Disease

Endometrial Cancer
- 3 times higher risk
  Screening test: endometrial biopsy
Case: lab and diagnostic results

FSH 7.4 (1.7 - 12.9)
Prolactin 3.7 (2.2 - 30.3)
TSH 0.657 (0.360 - 4.170)
ANA negative
RF <15 (0 - 15)
ESR 10
BMP WNL
CBC WNL

Endometrial Biopsy: Normal proliferative endometrium
Chol: Total 190, HDL 50 LDL 125 Triglyceride 74
2 Hr Glucose Tolerance: fasting 79, 1 hr 79, 2 hr 81
Polycystic Ovary Syndrome: It's Not Just Infertility

<table>
<thead>
<tr>
<th>CONDITION</th>
<th>FOLLICLE-STIMULATING HORMONE</th>
<th>LUTEINIZING HORMONE</th>
<th>PROLACTIN</th>
<th>TESTOSTERONE</th>
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<td>Extreme exertion or rapid weight changes</td>
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<tr>
<td>Premature ovarian failure</td>
<td>Significantly elevated</td>
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<td>Pituitary adenoma</td>
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<td>Progestational agents</td>
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<td>Hyperthyroidism or hypothyroidism</td>
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<tr>
<td>Eating disorders</td>
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<tr>
<td>Polycystic ovary syndrome</td>
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<td>Generally moderately elevated</td>
<td>Normal to mildly elevated</td>
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<tr>
<td>Congenital adrenal hyperplasia</td>
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<td>Normal to mildly elevated</td>
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</table>
Treatment

Medications

- Combined Oral Contraceptive Pills
- Metformin
  - Delays development of DMII in high risk populations but data insufficient to recommend specifically in PCOS.
  - Common dose 1500-2000mg daily for PCOS
- Statins
- Progestins, including progestin-secreting IUD
- Spironolactone

Lifestyle changes

- In obese women, weight loss improves ovarian function, glucose levels, and lipid levels
Chronic disease risk

- **Diabetes**
  - 5 to 10 times increased risk of DM type II
  - 30-35% of women with PCOS have impaired glucose tolerance

- **Endometrial Cancer**
  - A result of chronic anovulation
  - 3 times greater risk

- **Breast Cancer**
  - Less well-associated, but may increase risk by 3 to 4 times

- **Hyperlipidemia**

- **Cardiovascular disease**

- **Non-alcoholic Fatty Liver Disease**

- **Obstructive Sleep Apnea**
Referrals

Infertility and pregnancy

- Ovulation induction is more difficult in women with PCOS because there is higher risk of ovarian hyperstimulation syndrome and multifetal pregnancy
- Increased pregnancy risk due to higher rates of obesity, hypertension, and gestational diabetes
- Preconception counseling recommended
- Clomiphene citrate is first line treatment, injected gonadotropins are second line, but have a lower risk of ovarian hyperstimulation

Ob/Gyns with specialty training in Reproductive Endocrinology and Infertility treat women with or without a desire for pregnancy.

Endocrinologists evaluate and manage hirsuitism, diabetes, and metabolic syndrome.
Key Points for PCOS in primary care

Diagnosis
- Laboratory work-up to rule out less-common causes of hyperandrogenism and other endocrine disorders
- Ultrasound imaging

Initial treatment goals
- Menstrual regulation
- Decrease hirsutism
- Fertility counseling and treatment

Chronic Disease Management
- Treat insulin resistance and prevent progression to diabetes
- Endometrial protection and high suspicion for cancer
- Treat hyperlipidemia and other manifestations of metabolic syndrome
- Healthy lifestyle counseling
References

