Missing menses
Amenorrhea in the Adolescent

Pedicases

Objectives

- Distinguish normal versus abnormal menstrual function
- List a differential diagnosis for both primary and secondary amenorrhea
- Formulate a diagnostic plan to work up the adolescent with amenorrhea
- Describe the management options for PCOS

Part I: Introduction

A 17 year old female, Neha, comes into your office for a routine check-up. She tells you that she has not had her period in 7 months.

- Menarche at age 12, irregular from onset
- Breast and pubic hair development at age 10
- Cycles became longer over the past several years from every 2-3 months to now every 4-7 months

Part I: Introduction

Current History:

Neha's last menstrual period was seven months ago lasting for about one week. She has not had any bleeding or spotting since then. This is the longest interval of time she has gone without having a period.

She reports she has been visiting a salon weekly for hair removal. She has always struggled with her weight and has noted continued increase over the past several years despite attempts at weight loss. She denies PMS symptoms. She has no significant cramping with her menses. She does not feel that acne is a problem although has occasional breakouts. Review of systems is also negative for headaches, visual changes, gastrointestinal symptoms, heat or cold intolerance, fatigue, and galactorrhea.

Part I: Introduction

Past Medical History:

No previous diagnoses. Full-term infant, BW: 5 lbs 10 oz. She does not take any medications regularly.

Family History:

Only child. She reports her mother struggled to become pregnant. Father and multiple aunts and uncles have type 2 diabetes.

Part II: Next Steps

Psychosocial History:

Neha has been sexually active with one male partner in the past but is not in a current relationship. No history of pregnancy or STI. Last intercourse was over a year ago. She denies alcohol, tobacco, or drug use. She admits she is bothered by her weight and feels “fat.” She has tried dieting but says that “it doesn’t work.” She does not skip meals nor restrict her diet; she denies diet pill, diuretic, and laxative use. She also denies history of binging and purging. No extraordinary stressors with family, friends or school. She does not engage in any sports or regular exercise but considers herself active.

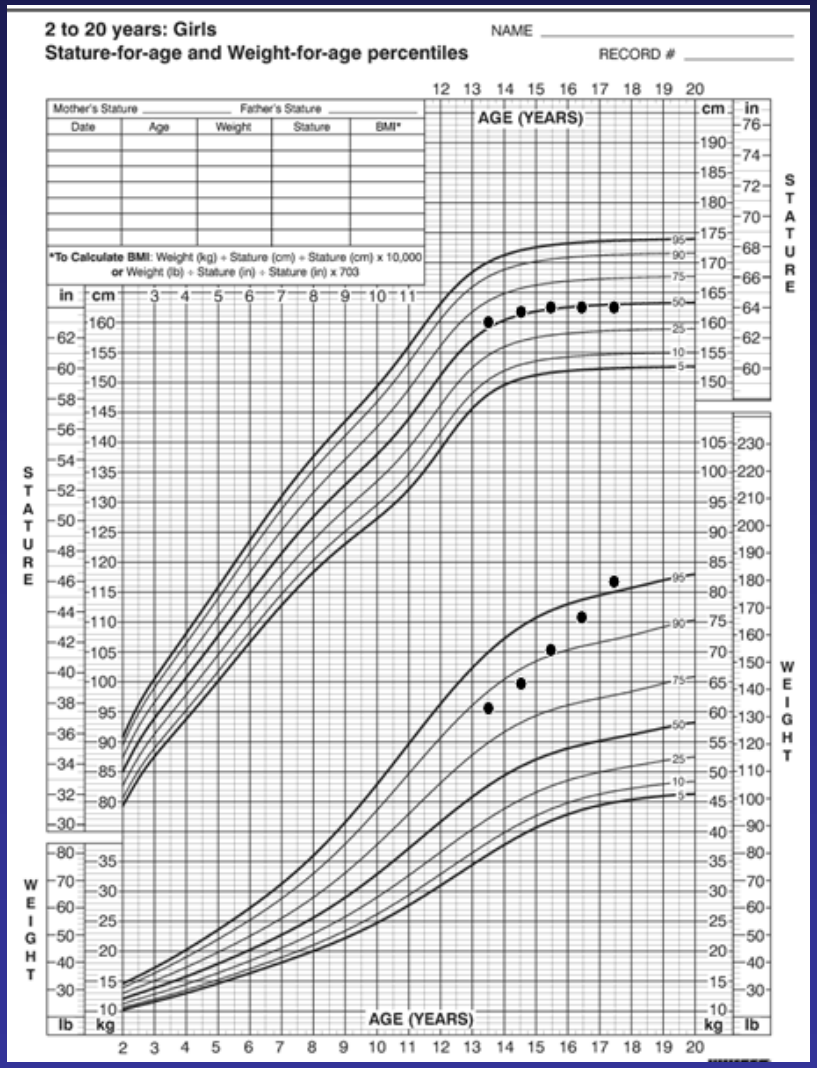
Part II: Next Steps

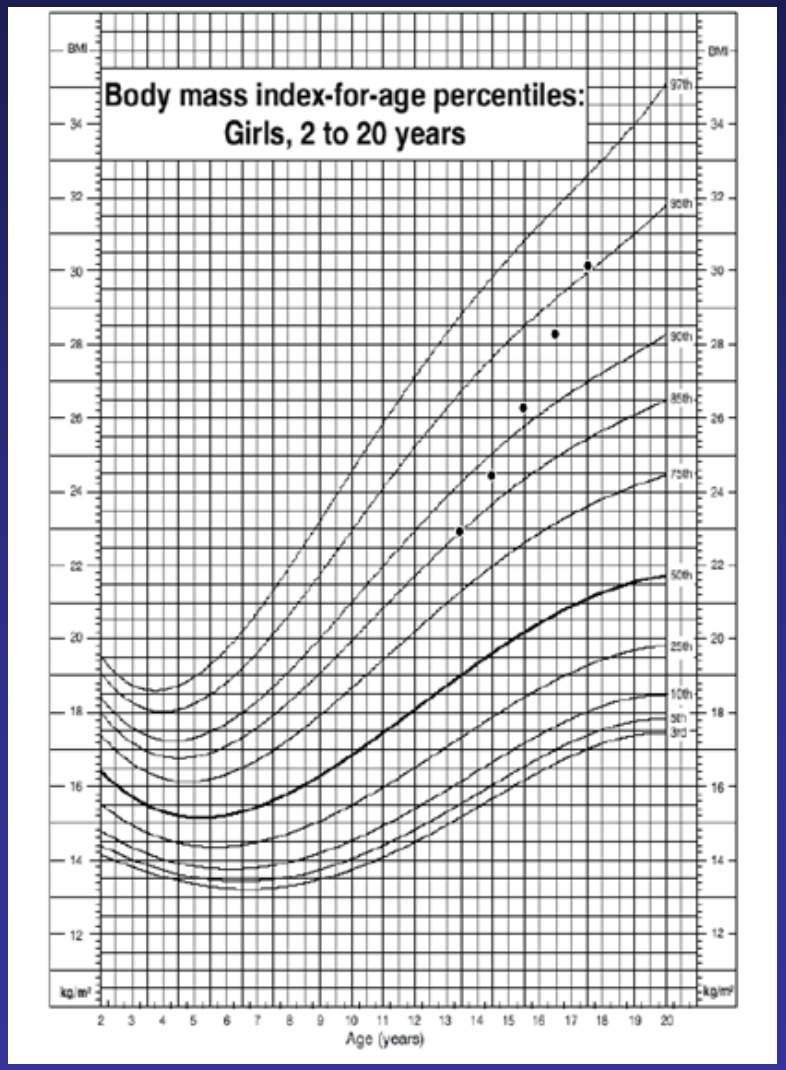
Physical Exam:

Ht 64 in, 163 cm (50%) weight is 180 lbs, 82 kg (>95 %). BMI = 30.9 kg/m2 (95%) Heart rate is 72.

No thyromegaly. Lungs clear bilaterally. Heart RRR s1 s2. Breasts are Tanner V without galactorrhea. Her abdomen is soft, NT, ND, no masses on palpation. Her pubic hair is Tanner V and external genitalia are normal. No clitoromegaly (<3 mm width). Vaginal mucosa is pink, moist. A bimanual vaginal/abdominal exam reveals a firm, small uterus and normal ovaries bilaterally. Skin darkened, thickened over neck. Moderate papular acne on face and back. Dark thick hair on chin, sideburns, back, lower abdomen

Growth Charts

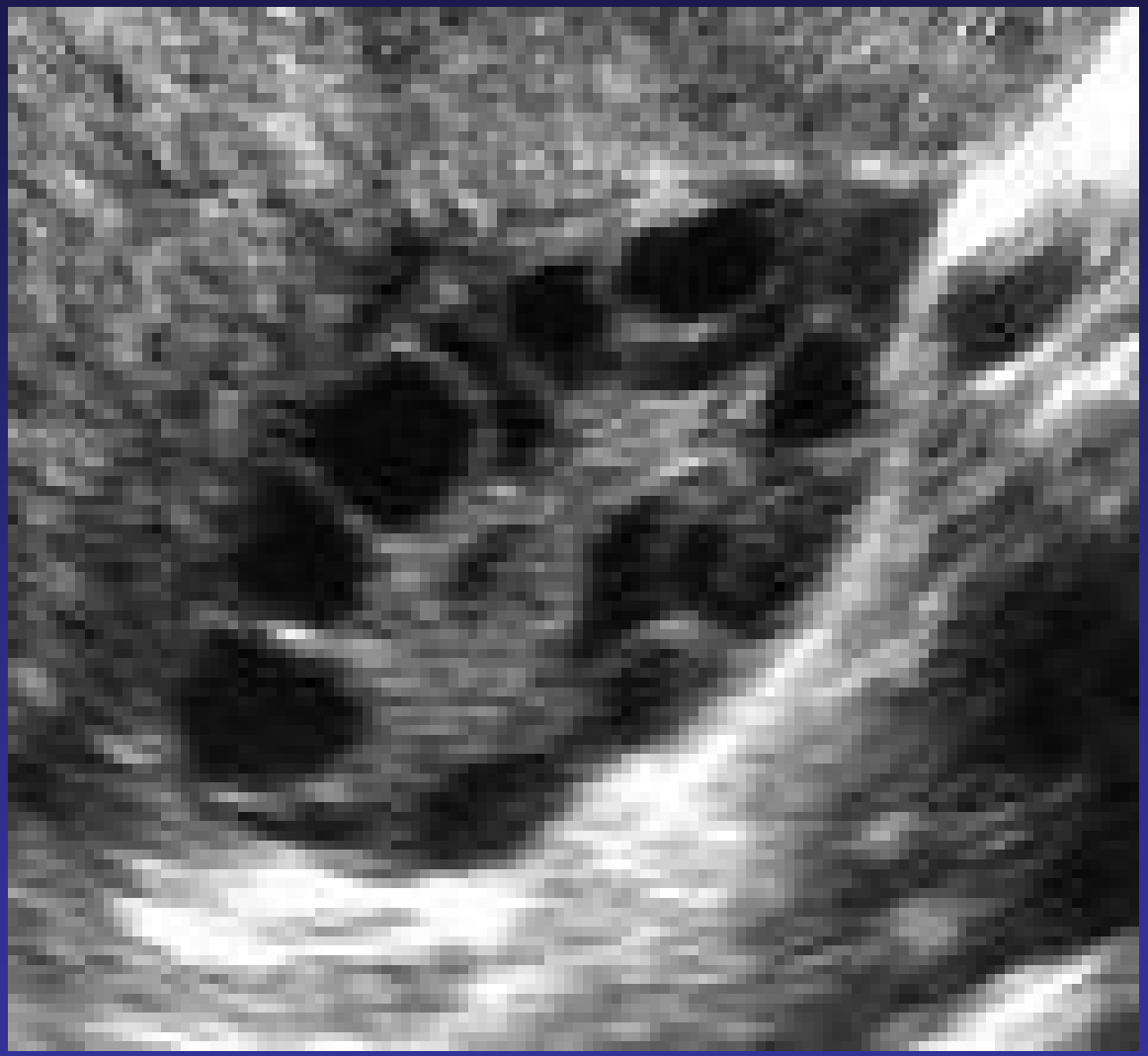




Laboratory Results

- urine pregnancy test: negative
- FSH: 5.4 IU/L
- LH: 15.2 IU/L
- TSH: 1.3 uU/ml (normal: 0.7-5.7)
- Prolactin: 14.6 ng/ml (normal < 26)
- Testosterone (free): 9.7 pg/mL (normal: 1.1-6.3)
- Testosterone (total): 65 ng/dL (normal for Tanner V female: 10-55)
- DHEAS: 286 mcg/dl (45-380)
  17OHP (7-8 AM draw): 91 ng/dL (normal <200)
- NAAT (aptima): negative for gc/chlamydia

Imaging



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Part III: Epilogue

- You prescribe a ten day course of oral medroxyprogesterone to induce a withdrawal bleed and counsel Neha on the various treatment options.

- Neha returns two weeks later and is havinga withdrawal bleed. You send her for additional labs including OGTT. Fasting glucose level (88 mg/dL) is normal but 2-hour glucose (104 mg/dL) and fasting insulin (35 mcIU/mL) are both elevated. Lipid panel is normal. You counsel her on weight loss and recommend regular exercise and decreased caloric intake. Neha has decided that she would like to start on an oral contraceptive pill to address both PCOS and potential contraceptive needs.

Part III: Epilogue

- At a three month follow-up visit, Neha is having regular menses and no side effects to the pill. However she has gained 1 kg (although reports no appetite changes on the OCP) and continues to remain frustrated by hair growth and weight gain. You start metformin and a MVI (vitamin B12 levels may decrease by 10-30% on metformin), increasing up to 1000 mg twice daily after renal and liver function tests return normal. She also agrees to work with a nutritionist and increase her exercise.

- Neha decides to look into laser treatment options for hair removal.