Office Management of the Infertile Couple

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Background

• About 10-15% of reproductive age couples experience difficulty conceiving.
• The prevalence of infertility in the US is fairly constant, but the number of couples seeking fertility treatment has increased dramatically.
• Most couples who seek care for infertility will ultimately conceive.
Infertility Tests

• A basic infertility evaluation is straightforward and can be completed within about six weeks and includes testing for the following factors: male, cervix, uterus, tubes, and ovaries.
• The cause of infertility can often be identified at the first office visit.

Infertility Tests

• Male: Semen analysis
• Cervix: Post coital test (check cervical mucus after sex near ovulation). (? Value)
• Uterus, tubes: Hysterosalpingogram
• Ovary: Menstual history, basal body temp, urine LH kit, mid-luteal progesterone level.
Case #1

• A 27 year old woman has attempted pregnancy for 18 months without success. She has a long history of infrequent, irregular menses since menarche, with periods up to six months apart. She notes worsening acne since stopping OCPs.

Case #1

• Most likely cause of infertility?
• What tests should be done?
• What is the most common treatment?
Case #1

• Most likely cause of infertility: ovulatory dysfunction due to polycystic ovary syndrome (PCOS).

Polycystic Ovary Syndrome

• Irregular menses, some sign (clinical or lab) of androgen excess, multicystic ovaries on ultrasound. (Need 2 out of 3?)
• Found in about 5% of reproductive age women.
• Cause not clear, but many (50-75%) of PCOS patients have some evidence of insulin resistance. Up to 25% will develop Type 2 DM.
PCOS - Diagnosis

• PCOS is a diagnosis of exclusion; there is no test for PCOS!
• Must exclude disorders of thyroid (TSH), pituitary (prolactin), adrenals (17 OH P), as well as premature menopause (FSH), and pregnancy. Also, look for DM (FBS, Hgb A1C).
• Probably worthwhile to get testosterone and DHEAS levels to rule out ovarian or adrenal tumors.

PCOS - Treatment

• Step 1: Normalization of body weight (try to achieve wt <125% of ideal body weight). If diabetic or prediabetic, start metformin (up to 1 g BID).
PCOS - Treatment

- Step 2: Give clomiphene 50 mg/d for five days (start on day 2 of menstrual cycle?). Monitor with basal body temp chart or urine LH kit. Increase to 100 mg/day if no ovulation. Repeat @ 50/day if ovulation but no pregnancy, and start looking for other problems.

Clomiphene

- Most widely prescribed fertility drug in US.
- Blocks estrogen receptor in hypothalamus, which results in pituitary release of follicle stimulating hormone (FSH).
- Side effects: Hot flashes, irritability, visual changes, abdominal bloating.
- Twins in 5-10% of pregnancies, > twins in 1%.
- Approved at 50-100 mg/day, but higher doses sometimes used.
PCOS – Bad Signs

• No ovulation on CC 100 mg/day
• Ovulation but no pregnancy by third ovulatory cycle (75% of CC pregnancies achieved by then).
• Worrisome clinical signs:
  – “I’ve been bleeding every day for six months, and nothing seems to help.” (Endometrial cancer?)
  – “I just started growing a beard and going bald 6 months ago.” (Tumor?)

Case #2

• A 32 y/o woman, infertile for 6 years.
• Prior infertility with three other partners over previous 10 years.
• Regular menses, current husband has 2 kids by previous spouse.
• Most likely cause?
• Next step for diagnosis?
Case #2

- A 32 y/o woman, infertile for 6 years.
- Prior infertility with three other partners over previous 10 years.
- Regular menses, current husband has 2 kids by previous spouse.
- Most likely cause? Tubal occlusion from previous salpingitis.
- Next step for diagnosis?

Case #2

- A 32 y/o woman, infertile for 6 years.
- Prior infertility with four other partners over previous 10 years.
- Regular menses, current husband has 2 kids by previous spouse.
- Most likely cause? Tubal occlusion from previous salpingitis.
- Next step for diagnosis? Hysterosalpingogram.
Tubal Occlusion – Treatment

• Tubal surgery (laparoscopy)
• In vitro fertilization (IVF)
• IVF more successful, but sometimes tubal surgery (but not IVF) covered by insurance.

Case #3

• 29 y/o woman, infertile for 16 months.
• Regular menses, no other health problems.
• Husband healthy, semen analysis normal.
• Post coital test (3 h after sex): Semen on perineum and vulva, no sperm seen in cervical mucus or vaginal fluid.
• Most likely cause?
Case #3

• 29 y/o woman, infertile for 16 months.
• Regular menses, no other health problems.
• Husband healthy, semen analysis normal.
• Post coital test (3 h after sex): Semen on perineum and vulva, no sperm seen in cervical mucus or vaginal fluid.
• Most likely cause? Sexual dysfunction (premature ejac or hypospadias).

Case #3

• Most common fertility treatment for this would be artificial insemination (using husband’s sperm).
• Use urine LH kit to time insemination.
Case #4

- 24 y/o, infertility for 2 years.
- Long hx of painful menses, worsening since OCPs stopped. Now hurting almost every day.
- Pain w/ sex; painful bowel movt when on menses.
- Most likely cause? Endometriosis.
- Next step in management?
Case #4

- 24 y/o, infertility for 2 years.
- Long hx of painful menses, worsening since OCPs stopped. Now hurting almost every day.
- Pain w/ sex; painful bowel movt when on menses.
- Most likely cause? Endometriosis.
- Next step in management? Laparoscopy.

Case #5

- 38 y/o psychology professor, infertility for 6 months.
- Recent irregular menses, with worsening hot flashes and night sweats.
- Most likely cause?
- Next step in management?
Case #5

• 38 y/o psychology professor, infertility for 6 months.
• Recent irregular menses, with worsening hot flashes and night sweats.
• Most likely cause? Perimenopause.
• Next step in management? FSH level. Refer for egg donor IVF if FSH elevated.
Case #6

- 34 y/o, two years of infertility, previous pregnancy by current spouse 4 years ago.
- Regular menses, no other health issues, urine LH kit positive on day 13 of cycle.
- Husband 44 y/o, in good health, on no meds, works out at gym 3 times a week.
- Most likely cause?
- Next step in management?
Case #6

- 34 y/o, two years of infertility, previous pregnancy by current spouse 4 years ago.
- Regular menses, no other health issues, urine LH kit positive on day 13 of cycle.
- Husband 44 y/o, in good health, on no meds, works out at gym 3 times a week.
- Most likely cause? Could be anything, but suspicious for male factor.
- Next step in management? Semen analysis.

Case #6

- Semen analysis: No sperm seen.
- Husband reveals he has been receiving treatment for fatigue at a “natural hormone replacement” clinic.
- Records reviewed: husband receiving testosterone pellets.
Androgen Therapy and Infertility

• Testosterone treatments eliminate sperm production in 40-90% of men.
• T pellets, T-cypionate, T-propionate, T transdermal gel all implicated.
• Treatment: d/c androgen. Consider HCG injections if return of sperm production within 3-6 months.

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