Overview of Hormonal Contraception

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Objectives

- Discuss the background and goals of contraceptive care
- Review the pros and cons of utilizing the various hormonal contraceptives
- Review recent products and considerations

Professional Resources & Business Development

CPE Information and Disclosures

- No Conflicts of Interest to Disclose
Objectives

- Discuss the options available for emergency contraception
- Be familiar with common drug interactions and adverse effects associated with hormonal contraceptives
- Identify key contraception counseling points to discuss with every patient

Self Assessment Questions

Background
Background

- 62 million US women are in their childbearing years (ages 15-44)


Use of Contraceptives (Ages 15-44)

- 62%
- 31%
- 7%


Risk of Unintended Pregnancies

- 50% of pregnancies are unplanned
- Pregnancy occurs in 85% of females who participate in unprotected intercourse
- 78% of teenage pregnancies are unintended

Source: http://www.cdc.gov/PRAMS/UP.htm; The measurement and meaning of unintended pregnancy. Perspectives on Sexual and Reproductive Health March/April 2003. 35(2).
Types of Contraceptive Methods used by US Women (Age 15-44 yrs)

Components of Contraception Counseling

Hormonal Contraception Options
Goals of Contraceptive Care

- Prevention of unintended pregnancies
- Avoidance of ADRs and a tolerable option for patients
- Key Focus →
  - Compliance
  - Willingness of use
  - Limited side effects

Normal Menstrual Cycle

Mechanism of Action of Hormonal Contraceptives

- Inhibition of the Luteinizing hormone (LH) surge**
  - Inhibiting ovulation
- Thickening of the cervical mucous
- Alteration of endometrial lining

Efficacy of Hormonal Contraceptives

- Typical vs. Perfect use
  - Typical use compared to correct and consistent use

- Pills, patch and ring are equally efficacious
  - 0.3% perfect use, 8% typical use

- Lower failure rates with injection (3%) implant (0.3%) and IUDs (0.1%)


Contraceptive Options

- Hormonal Options
  - Oral Contraceptives
  - Patch
  - Vaginal Ring
  - Intrauterine Devices/Systems (IUD/IUS)
  - Injection
  - Implant
  - Recent Products

Oral Contraceptives
**Combined Oral Contraceptives (COCs)**

**Advantages**
- High efficacy (8% typical failure rate)
- Unpredictable/problematic menses
- Reduction of dysmenorrheal symptoms
- Reduced risk of endometrial and Ovarian CA

**Disadvantages**
- Estrogen and progesterone side effects
- Daily use
- Potential risk for venous thromboembolism, stroke, or myocardial infarction
  - Need to assess personal history


**Progestin-only Oral Contraceptives**

**Advantages**
- Beneficial for patients who can not take COCs
  - Minimize estrogen related risks/side effects
- Reduction of dysmenorrheal symptoms

**Disadvantages**
- Need for compliance**
  - Consistent administration is necessary for efficacy

**Contraceptive Patch**
**Ortho-Evra®**

**Advantages**
- 6 mg norelgestromin and 0.75 mg ethinyl estradiol
- 8% typical failure rate
- Similar side effects compared to COCs
- Immediate return to fertility
- Use weekly with one patch-free week (Compliance)

**Disadvantages**
- Reduced efficacy in obese women (> 90 kg)
- Conflicting evidence regarding venous thromboembolic risk
- Black Box Warning

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**Vaginal Ring**

**Advantages**
- 11.7 mg etonogestrel and 2.7 mg ethinyl estradiol
- 8% typical failure rate
- Reduced side effects compared to COCs
- Use one ring for 3 weeks with 1 ring free week (Compliance)

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**Nuva-Ring®**

**Advantages**
- Potential for ring expulsion during intercourse

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**Source:**
Intrauterine Devices/Systems (IUD/IUS)

Mirena®

Advantages
- 52 mg levonorgestrel (Releasing 20mcg/day)
  - 0.1% failure rate
  - Use x 5 years
- May be removed, but not re-inserted
- Immediate return to fertility

Disadvantages
- Increased risk of uterine perforation
- Potential risk for expulsion
- Assess personal history for contraindications

Contraceptive Injections
**Depo-Provera®**

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
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<tr>
<td>- 150 mg/mL or 104 mg/mL medroxyprogesterone acetate</td>
<td>- Compliance</td>
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<tr>
<td>- 3% failure rate</td>
<td>- Office visit required every 12-14 weeks</td>
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<td>- IM injection q12 weeks</td>
<td>- Decreases in bone density</td>
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<tr>
<td>- Effective option for women who are unable to use COCs</td>
<td>- Black Box Warning</td>
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**Contraceptive Implants**

**Implant: Implanon®**

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
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<tr>
<td>- Implant rod</td>
<td>- Irregular bleeding</td>
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<tr>
<td>- Contains 68 mg of etonogestrel, the active metabolite of desogestrel</td>
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<tr>
<td>- Effective for 3 years</td>
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<tr>
<td>- Immediate return to fertility</td>
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Recent Products

Recent Products - Extended Cycle Oral Contraceptives

- **Seasonale ®/ Seasonique ®/Lo-Seasonique**
  - Levonorgestrel and ethinyl estradiol
  - Tablets taken every day for 84 days with 7 days of low dose ethinyl estradiol or placebo

- **24 day dosing of OCs**
  - Yaz® - Drospirenone/ ethinyl estradiol
    - Increased VTE risk with Drospirenone (FDA announced Labeling update in April 2012)
  - Loestrin® 24 Fe- Norethindrone/ ethinyl estradiol

- **Lybrel®**
  - Levonorgestrel 90 mcg and ethinyl estradiol 20 mcg
  - First extended cycle OC for continuous use

Recent Products - Quadriphasic Oral Contraceptive

- **Natazia ® - Dienogest/estradiol valerate**
  - First four phasic pill
    - Decreasing estradiol valerate and increasing dienogest throughout the cycle
  - 26 day active pills/2 days of placebo

Emergency Contraception (EC)

Emergency Contraception: Background
- Safe and effective option to prevent pregnancy
  - Unprotected sex
  - Forced sex
  - Birth control failure
    - Condom broke
    - Missed > 2 days of OCs
- Mechanism of Action
- Need to educate patients AND health care providers !!

EC Options
- EC is taken after unprotected sex
- Four options for EC:
  - Plan B One-Step (Levonorgestrel)
  - Ella® (Ulipristal Acetate)
  - Yuzpe method (Combination estrogen and progestin)
  - Copper IUD insertion
EC Summary Points

- Effective within the 1st 72-120 hours
- Common ADRs
  - Nausea and vomiting
  - Headache/Irregular bleeding/ACHES
- What are the concerns about EC?
- What is your role?

Key Counseling Points

Key counseling points

- “ACHES”
- Cancer risk and OCs
- Drug interactions
- Postpartum patients
- Lactation
“ACHES”

- Abdominal Pain
- Chest Pain
- Headaches
- Eye Problems
- Severe Leg Pain

Cancer risk and OCs

- Breast cancer
  - Small increase in relative risk of localized breast cancer in women under 35 yrs concurrently using oral contraceptives
- Endometrial cancer
  - ↓ risk
- Ovarian cancer
  - ↓ risk
- Cervical cancer
  - ↑ risk with > 5 years use; 4-fold risk with > 10 years

Drug interactions

- CYP-3A inducers (↓ efficacy)
  - Carbamazepine
  - Phenobarbital
  - Phenytoin
  - Non-nucleoside reverse transcriptase inhibitors (NNRTIs)
  - Rifampin
  - Griseofulvin
- Interaction with Lamotrigine and COCs
  - ↓ Lamotrigine levels
- When in doubt, recommend a backup
Postpartum patients

- Increased risk of thrombosis during the initial weeks postpartum
  - For a non-breastfeeding patient with **low** VTE risk, **wait 3 weeks** after delivery to use combination methods
  - For a non-breastfeeding patient with an **increased** VTE risk, **wait 6 weeks** after delivery to use combination methods
  - Progestin-only methods typically recommended


Lactation

- For the postpartum patient who chooses to breastfeed:
  - Progestin-only methods preferred
    - Does not affect the milk production
    - Recommended to wait 4 weeks after delivery (Use in the first 4 weeks is debated but still appropriate)
  - Combination methods may be used 6 months after delivery (or when the patient stops breastfeeding)
    - Advantages outweigh risks when using combination methods prior to 6 months (but no sooner than 1 month postpartum)
  - Use of Non-hormonal options is appropriate


Contraception Checklist for the Pharmacist- Review your ABC's

- **A**
  - Assess patient’s contraceptive needs
- **B**
  - Be proactive regarding patient’s willingness to use each product (Compliance!!)
- **C's**
  - Counsel on side effects
  - Counsel on STD/STI protection
  - Cost- insurance coverage
Take Home Points

- Patient compliance with contraceptive options
- Minimize and manage side effects
- Patient ease and willingness to use
- Contraception goals for the patient
  - The best choice of contraception → the product that the patient will use.

Self Assessment Questions

Questions?