

Reproductive Life Cycle Progressive Case Conference *Trainee Guide*

Contributors

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Pre-Reading

- The reproductive life cycle [self-study materials](#)
- Deligiannidis K, Byatt N, Freeman M. Pharmacology for mood disorders in pregnancy. *J Clin Psychopharmacol.* 2014 April ; 34(2): 244–255.
- Sramek J, Murphy M, Cutler N. Sex differences in the psychopharmacological treatment of depression. *Dialogues in Clinical Neuroscience* 2016 18 (4) 447-457.

Session Overview

The focus of this section will be on the basics of the reproductive life cycle in women. This case conference focuses on the knowledge of the reproductive life cycle impacts medical decision-making during pregnancy, postpartum, and breastfeeding. Topics such as the pharmacokinetic changes in pregnancy and sex differences in medication metabolism will be discussed.

- **Discussion of self-study materials (10 min)**
- **Apply knowledge to a clinical case (40 minutes)**
- **Wrap-up/review (10 minutes)**

Learning Objectives

1. Describe the stages of the menstrual cycle, including both biologic changes and their clinical impact
2. Compare the three trimesters of pregnancy and labor/delivery from a biological perspective and describe their clinical impact
3. Discuss the biological changes inherent in perimenopause and menopause and their potential clinical impact
4. Discuss specific differences in clinical decision-making in a pregnant patient, such as changes in metabolism and fluid shifts, that impacts medication prescribing

Case Scenario

Part 1: Preconception

Serena is a thirty-four year old woman with no active medical problems, with a history of generalized anxiety disorder, who presents for routine care to her psychiatrist. She is currently taking escitalopram 10 mg PO daily, which has been effective. She wishes to know if there are sex-related differences in the processing of medications and if that might affect her dose.

Questions to Consider

1. If you were a trainee discussing this case with your supervisor, how would you describe the physiologic and pharmacokinetic factors that could influence sex differences in medication efficacy?

2. How might you describe this to your patient in terms of specific recommendations regarding her medication regimen?

Reference: Sramek J, Murphy M, Cutler N. Sex differences in the psychopharmacological treatment of depression. *Dialogues in Clinical Neuroscience* 2016 18 (4) 447-457.

Part 2: Pregnancy

At a follow up appointment, Serena mentions that she had discussed with her partner the plan to start to conceive in the next year. She still has an intra-uterine device inserted. The psychiatrist and Serena discuss options regarding whether or not to stay on escitalopram during pregnancy and postpartum once she starts to try to conceive. After a detailed risk-risk discussion (as seen here in this optional 20-minute video, [Risk Conversation](#)), Serena elects to stay on this medication throughout pregnancy and postpartum. She then asks specifically about any dose adjustments that might need to occur due to pharmacokinetic changes in pregnancy.

Questions to Consider

1. If you were a trainee discussing this case with your supervisor, how would you categorize the pharmacokinetic changes that occur in pregnancy?

2. How specifically might this affect this particular patient, given the medications she is taking?

Part 3: Postpartum

Serena attends a routine follow up visit with her psychiatrist at 35 weeks of pregnancy. Her pregnancy has been uncomplicated. Her mood is euthymic and she feels her anxiety has been well controlled on the current dose of escitalopram. She asks about the postpartum period and how this might affect her dose of medication.

Questions to Consider

1. If you were a trainee discussing this case with your supervisor, how would you categorize the pharmacokinetic changes that occur in the postpartum period?

2. How specifically might this affect this particular patient, given the medications she is taking?

Reference: Deligiannidis K, Byatt N, Freeman M. Pharmacology for mood disorders in pregnancy. *J Clin Psychopharmacol*. 2014 April ; 34(2): 244–255.

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