

Hemodynamics in Pregnancy: Physiology and Pathophysiology

Objectives

- Discuss the physiologic considerations of the venous system in pregnancy
- Compare and contrast hemodynamic changes/differences that occur with gestational hypertension and preeclampsia
- Identify noninvasive cardiovascular assessment tools in evaluation of hemodynamic status
- Describe the role of gestational volume expansion and stressors for the maternal cardiovascular system

Content Outline

1. Venous System Physiology
 - A. Basic concepts
 1. Anatomy
 2. Functional characteristics
 - B. Alterations in pregnancy
 1. Venous tone and volume
 2. Sympathetic predominance
 3. Cardiovascular reflex system
2. Hemodynamic Pathways of Gestational Hypertension and Preeclampsia
 - A. Noninvasive cardiovascular assessment tools
 - B. Gestational volume expansion and its effects on the maternal cardiovascular system
 - C. Hypertension and Preeclampsia
 1. Differences in presentation and assessment
 2. Early onset preeclampsia
 3. Late onset preeclampsia

Reading Material Resources

Module WB2512 – Hemodynamics in Pregnancy: Physiology and Pathophysiology is based on the resources listed below. A copy of each resource is included with the module.

The venous system during pregnancy, Part I physiologic considerations, Tsen, et al., International Journal of Obstetric Anesthesia, 50 (2022), 1-6

Hemodynamic pathways of gestational hypertension and preeclampsia, Gyselaers, Wilfried, American Journal of Obstetrics and Gynecology, February 2022, S988-S1005