

ULTRASOUND

LECTURE SERIES

Ultrasound of the Normal Fetal Neuraxis

Ray O. Bahado-Singh, MD, MBA
Neil Hamill, MD

Department of Obstetrics and Gynecology
Wayne State University
Detroit, Michigan

Objectives

After completing, the student should be able to identify normal fetal central nervous system anatomy in the following planes:

- Transventricular view
- Transthalamic view
- Transcerebellar view
- Sagittal views: cranium
- Coronal views: cranium
- Normal spine: orthogonal views

Topics

1. Fetal planes:
 - Axial
 - Coronal
 - Sagittal
2. Structures in the fetal cranium in the axial view:
 - A. Transventricular view
 - Frontal horn
 - Cavum septum pellucidum
 - Atrium
 - Choroid plexus
 - B. Transcerebellar view
 - Thalamus
 - Cerebellum
 - Cisterna magna
3. Coronal view
 - Frontal horn
 - Corpus callosum
 - Cavum septum pellucidum
4. Sagittal view
 - Corpus callosum
 - Cavum septum pellucidum
 - Cavum vergai
 - Third ventricle
 - Cerebellum
 - Cisterna magna

Review Questions

1. What is the imaging plane that is routinely used to obtain the biparietal diameter?
 - A. Transventricular.
 - B. Transthalamic.
 - C. Transcerebellar.
 - D. Sagittal.
 - E. Coronal.
2. The third ventricle is a narrow fluid-filled space:
 - A. Located between the anterior horns of the lateral ventricles.
 - B. Located between the midbrain and the cerebellum.
 - C. Located between the thalami.
 - D. Best imaged parasagittally by demonstrating choroid plexus filling the space.
3. Which structure is located within the lateral ventricles?
 - A. Cavum septum pellucidum.
 - B. Cavum vergai.
 - C. Cavum vellum interpositum.
 - D. Choroid plexus.
 - E. Insula.
4. The corpus callosum forms the roof of which of the following?
 - A. Lateral ventricles.
 - B. Aqueduct of Sylvius.
 - C. Cavum septum pellucidum.
 - D. Thalamus.
 - E. Third ventricle.
5. A normal axial view of a fetal vertebra includes:
 - A. A single ossification center for the vertebral body.
 - B. An ossification center for each of the vertebral pedicles.
 - C. An intact skin line.
 - D. All of the above.
 - E. None of the above.