MRI Imaging of Suprarenal Masses in the Fetus
Leann E Linam, MD; Maria A Calvo–Garcia, MD; Eva I Rubio, MD; Timothy M Crombleholme, MD; Beth M Kline-Fath

Introduction
- Prenatal ultrasound is essential in the detection of fetal abnormalities, including adrenal masses.
- Adrenal masses may be cystic, solid, or a combination of both. They may be associated with other congenital anomalies.

Case 1
- A 35-year-old female with a large suprarenal mass seen on outside ultrasound.

Postnatal CT
- Calcification is seen in the suprarenal mass, indicating a retroperitoneal mass.
- CT demonstrates a calcified left retroperitoneal mass or calcifications. There is mass effect on the aorta and inferior vena cava, causing deviation of the thecal sac to the right.

Intrabdominal pulmonary sequestration
- An empty, non-mesenchymal complex is noted.
- There is no vascular inpissation noted.

Case 2
- A 3-year-old male with a suprarenal mass.
- MRI demonstrates a retroperitoneal mass.

Axial FIESTA through the fetus demonstrates bilateral suprarenal masses.

Intraabdominal pulmonary sequestration
- A large retroperitoneal mass with calcifications is noted.
- A large right suprarenal mass is seen.

Case 3
- A 10-year-old female with a suprarenal mass.
- MRI demonstrates a large retroperitoneal mass.
- The mass is heterogeneous with areas of high signal intensity.

Conclusions
- MRI is superior to ultrasound in the diagnosis and differentiation of suprarenal masses.
- MRI better demonstrates the associated anomalies and aids in the diagnosis of the syndrome.
- Adrenal hemorrhage, and neuroblastoma.

References

Beckwith-Wiedeman Syndrome
- Beckwith-Wiedeman Syndrome consists of macrosomia, visceromegaly, omphalocele, hemihypertrophy, and macroglossia. Adrenal involvement is a frequent finding.

Case 4
- A large retroperitoneal mass is noted.
- Adrenal hemorrhage is noted in the suprarenal mass.

Adrenal Hemorrhage
- A large suprarenal mass with calcifications is noted.
- Calcifications are noted in the suprarenal mass.

Neuroblastoma
- A large suprarenal mass with calcifications is noted.
- Calcifications are noted in the suprarenal mass.

Intraabdominal pulmonary sequestration
- A large retroperitoneal mass with calcifications is noted.
- Calcifications are noted in the suprarenal mass.

Axial FIESTA through the fetus demonstrates bilateral suprarenal masses.