Clinical Image: In Utero Ultrasound Imaging of Fetal Cerebral Venous Sinuses and Veins

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Fetal Doppler ultrasonographic images in a 35-year-old woman at 25 weeks of gestation after minimally invasive fetoscopic in utero repair of fetal spina bifida. The color Doppler ultrasonographic images were acquired at low Nyquist limits in transverse planes below the level of cisterna magna (first row) and demonstrate various phases of flow in the bilateral transverse venous sinuses and the right sigmoid venous sinus (second row). Pulsed-wave Doppler interrogation at these sites demonstrated a pulsatile venous waveform (third row, left) with a forward blunted waveform composed of systolic component (ventricular systole), forward early diastolic component (passive ventricular filling) and a zero to reverse flow component in late diastole (atrial contraction) as reported in normal pregnancies [1]. Reverse flow during atrial contraction as seen in our case can be seen before 28 weeks of gestation [1]. Pulsed-wave Doppler ultrasonography at the skull base (third row, right) demonstrates arterial and venous flow patterns at the level of the carotid and jugular foramina with flow in opposite directions [2].

References
