Fetal Brain MRI: Novel Classification and Contribution to Sonography

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Objectives
1. To evaluate and classify the indications for fetal brain MRI in a tertiary referral center.
2. To assess the contribution of fetal brain MRI additionally to fetal neurosonography.

Methods
A retrospective study in a tertiary medical center during a two year period (2011-2012) included pregnant women who underwent fetal brain MRI. MRI was implemented at 32nd weeks of gestation unless a severe abnormality which may require earlier medical intervention was suspected.

Results
633 patients were included, 40 (6.3%) underwent repeated examinations with a total of 733 fetal MRI scans. Patients were classified into three main indication cohorts: Suspected primary brain anomaly (52.9%), non CNS disorders (32.5%) and obstetrical complications (14.6%). The overall MR additional findings were 19.3%, diverse upon primary indication.

Conclusions:
The current study describes a detailed picture of fetal brain MRI indications. The impressive diversity of 16 separate entities emphasizes the expanding use and contribution of fetal brain MRI.