Objective
To evaluate the added-value of fetal MRI upon ultrasound in detecting and specifying callosal anomalies, and its impact on clinical decision making.

Methods
Fetuses with a sonographic diagnosis of an anomalous corpus callosum (CC) who underwent a subsequent fetal brain MRI between 2010 and 2015 were retrospectively evaluated and classified according to the findings’ severity. Comparison of the findings detected on ultrasound to those detected on MRI was performed. An analysis was made to assess whether the addition of fetal MRI altered the group classification, and thus the management of these pregnancies. The levels of agreement were calculated using Cohen’s kappa.

Results
78 women were recruited following sonographic diagnoses of either complete or partial callosal agenesis, short, thin or thick CC. Normal MRI studies were obtained in 19 cases (24%). Among these, all children available for follow-up received an adequate adaptive score in their Vinland II adaptive behavior scale assessment. Analysis of the concordance between US and MRI demonstrated a substantial level of agreement for complete callosal agenesis (kappa: 0.742), moderate agreement for thin CC (kappa: 0.418) and fair agreement for all other callosal anomalies. Comparison between US and MRI based mild/severe findings classifications revealed that for 28 fetuses (35.9%) the MRI contributed to a change in the management, mostly (25 fetuses, 32.1%) in favor of pregnancy preservation.

Conclusion
Fetal MRI effectively detects callosal anomalies and enables satisfactory validation of the occurrence or absence of callosal anomalies identified by ultrasound and adds valuable data that improves clinical decision making.