

Prenatal diagnosis of congenital face and neck malformations- is complementary fetal MRI of value?

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Objective

Fetal face and neck anomalies represent a challenging prenatal diagnosis, mainly because of the wide range of morphological features involved.

Methods

A historical cohort study including all pregnant women who were referred for fetal MRI due to antenatal diagnosis of face or neck anomalies on screening US. A comparison group was composed of fetal MRI scans performed other than face or neck malformations. Prenatal US findings, MRI findings and postnatal diagnosis were compared for consistencies and discrepancies.

Results

Forty-five pregnant women with 73 suspected fetal face or neck anomalies diagnosed by screening US underwent MRI at a mean gestational age of 31.7. The comparison group comprised 61 women. In 40 out of 73 anomalies (54.8%), US and MRI findings were in complete agreement with postnatal diagnoses. MRI correctly ruled out the diagnosis of 24 anomalies suspected on US. MRI diagnosed four additional pathologies that were not demonstrated by US, with three of which being a cleft palate. Three anomalies interpreted correctly by US were not diagnosed on MRI. In six cases, the diagnoses by both US and MRI were incorrect when correlated with the postnatal outcome. Seven anomalies detected on pediatric examination were not recognized by both US and MRI. Out of the 85 anomalies (suspected or confirmed), confident diagnosis could be made by MRI in 68 anomalies (80%), not diagnosed in 10 (11.8%), and over-diagnosed in 7 (8.2%). By US, confident diagnosis could be made in 44 anomalies (51.8%), not diagnosed in 11 (12.9%), and over-diagnosed in 30 (35.3%).

Conclusion

MRI found to have higher diagnostic accuracy in the evaluation of fetal face and neck anomalies relative to US, thus should be offered as adjunct tool to US.