

Oral presentation

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In utero MR for ventriculomegaly

PD Griffiths*, E Widjaja, MNJ Paley and E Whitby

Address: Academic Unit of Radiology, Floor C Royal Hallamshire Hospital, Glossop Rd, Sheffield, S10 2JF

Email: PD Griffiths* - p.griffiths@sheffield.ac.uk

* Corresponding author

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Background

MR is being used increasingly for the diagnosis of fetal abnormalities in utero, both in research studies and in the clinical environment. It is perceived that in some situations MR may have a higher diagnostic accuracy than ultrasound in detecting some conditions, particularly brain and spine abnormalities. In this paper we present our current data concerning the assessment of diagnostic accuracy of in utero MR compared against ultrasound when investigating fetuses with ventriculomegaly.

Materials and methods

The study consists of two referral patterns, firstly fetuses from any gestational age after 19 weeks where the referring ultrasonography considered the examination to be difficult or there was some debate about the presence of abnormalities other than ventriculomegaly. This group consisted of 40 fetuses in which the primary referral problem was ventriculomegaly. The second consists of the first 15 cases from an ongoing study in which 20–22 week fetuses are recruited only if the referring ultrasonographer is sure that the fetus had ventriculomegaly only. The results of the ultrasound and MR examinations were compared with the final clinical, radiological or post-mortem examination as appropriate.

Results

The MR examinations in the forty cases in group 1 ('difficult ultrasound cases')

a) Complete agreement 19/40 (48%)

b) MR gave extra information but unlikely to have affected management 1/40 (2%)

c) MR gave extra information likely to affect management 2/40 (5%)

d) MR changed the diagnosis and affected management 18/40 (45%)

In group 2 (high confidence of ventriculomegaly)

a) Complete agreement between ultrasound and MR 14/15 (92%)

b) MR changed the diagnosis and affected management 1/15 (8%)

Conclusion

The improvement in diagnostic accuracy of MR over ultrasound when investigating 2nd trimester ventriculomegaly is exceptionally dependant on referral patterns and a wide variation of figures between different studies is to be expected