



Surgical outcome of antenatally diagnosed bowel echogenicity and bowel dilatation

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Objective

Bowel echogenicity (BE) and bowel dilatation (BD) have been described as markers for a variety of conditions (chromosomal and infectious disorders, cystic fibrosis, etc.) and gastro-intestinal (GI) anomalies. However, in the absence of other conditions, the association of isolated BE and/or BD with GI anomalies is unclear and poses a significant dilemma for antenatal counselling. This study aims to evaluate the incidence of GI anomalies in fetuses with antenatally diagnosed isolated BE and BE+BD in a large tertiary referral center.

Methods

A 10-year (2007 – 2017) retrospective review of data was performed on all fetuses diagnosed with BE and/or BD at Monash Health, Melbourne, Australia. The study was approved by the local ethics committee (RES-18-0000-072Q). The results are reported as number of cases (%) and mean \pm SD. Fisher's exact test, Mann-Whitney U test and multiple logistic regression analysis were used to identify differences between the two groups and predisposing factors for GI anomalies.

Results

We identified 42 fetuses with isolated BE and 13 fetuses with BE+BD. A GI anomaly requiring surgery was diagnosed in 1/42 (2.4%) with BE and 8/13 (61.5%) with BE+BD ($p < 0.001$). Risk of having a GI anomaly was significantly higher in BE+BD group compared to BE group (RR 25.8 [3.5-187.8]; $p = 0.001$). Multiple logistic regression analysis showed that maternal age ($p = 0.01$), presence of ascites ($p < 0.001$) and polyhydramnios ($p = 0.02$) were associated with higher incidence of GI anomalies requiring surgery.

Conclusion

Our results suggest that the finding of isolated BE is associated with $< 2.5\%$ incidence of a GI anomalies requiring surgery at birth compared to $> 60\%$ in the group of BE+BD. Older maternal age, presence of ascites and polyhydramnios were also associated with higher incidence of GI pathology at birth. This study provides the best available evidence for antenatal counselling of parents with fetuses with BE or BE+BD and no other associated conditions.