Does the obstructive level make differences? A comparative study for outcomes in pregnancies complicated by fetal GI tract obstruction and clinical implication of obstructive level in fetal GI tract.

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Object

To study probable obstetric complications at antepartum and peripartum period in pregnancies with fetal GI tract obstruction and postnatal outcomes of their fetuses.
To evaluate any different features between upper and lower fetal GI tract obstruction.

Materials and Methods

Total 56 cases of fetal GI tract obstruction were reviewed which detected by antenatal USG and examined after birth. We divided the GI obstructive levels in upper and lower according to postnatal evaluation results. Upper GI obstruction meaned esophageal and duodenal obstruction of various types and lower GI obstruction indicated jejunoileal obstruction. We evaluated amniotic fluid volume state, gestational age at first detection of obstruction, obstetric outcomes, and neonatal outcomes including associated structural abnormalities in each case.

Results

Of total 56 cases, 26 male and 30 female, 23 cases (41.1%) had upper GI tract obstruction, 27 cases (48.2%) showed lower GI tract obstruction, and 6 cases were confirmed normal. There was no gender dominance between upper and lower GI obstruction.
Polyhydramnios developed in 18 cases (78.3%) of upper GI obstruction and 13 cases (52.0%) of lower GI obstruction. ($p=0.004$)
Median value of AFI in upper GI obstruction was greater than in lower GI obstruction. (29.8 vs. 19.2) ($p=0.021$)
Twenty three cases(41.1%) were complicated by preterm delivery and all of them had either preterm labor or premature ruptured membrane.
AFI in preterm delivered pregnancies was 28.5 (median 28.5, range 11.7-42.8), compared to term delivered pregnancies (median 20.1, range 3.7-47.0). ($p=0.028$)
For preterm delivery, AFI 24 had 70% sensitivity and 57% specificity, while AFI 27 showed 70% sensitivity and specificity.
Between upper and lower GI obstruction, there was no statistically significant difference in gestational age at delivery. (median 37.5wks vs. 36.6wks. $p=0.06$)
Birth weight seemed to be greater in lower GI obstruction but was not statistically significant. IUGR was found only in upper GI obstruction. (21.7%, $p=0.013$)
No difference was found in gestational age at which GI obstruction was detected for the first time by USG.
More fetuses with lower GI obstruction survived than those with upper GI

obstruction.
(96.3% vs. 78.3%. p=0.037)
Upper GI obstruction had more associated structural abnormalities than lower GI obstruction. (43.5% vs. 16.7%, p=0.015)

Conclusions
In fetal GI tract obstruction, the level of obstruction had clinical implications in terms of preterm delivery affected by amniotic fluid volume state, fetal growth, and risk of accompanying structural abnormalities.

Key words : fetal bowel obstruction, polyhydramnios, esophageal atresia, duodenal atresia, jujunoileal atresia

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