

**Aim:** The aim of the study was to analyze causes of perinatal loss in multiple pregnancies.

**Introduction:** In population rate of multiple pregnancies varies from 0.7 to 1.5%. Multiple pregnancies are complicated by perinatal loss 4–9 times more frequently than singleton pregnancies.

**Methods:** Retrospective study of medical histories was carried out. Thirty patients with twin pregnancy and perinatal loss of one or both fetuses were included. Thirteen (43.3%) twins were mono-chorionic (MC), 17 (56.7%) – dichorionic (DC). At 11–14 week of gestation chorionicity was diagnosed by ultrasound; transvaginal measurement of cervix was performed at 19–21 week; biometry was done to identify degree of fetus' discordance.

**Results:** Complications of DC pregnancy: discordant fetal growth – 17 (100%), fetal growth restriction – 7 (41.2%), cervical insufficiency – 4 (23.5%). Discordant fetal growth was diagnosed in 17 DC twins: 8 (47.1%) –  $\leq 20\%$ , 9 (52.9%) –  $> 20\%$ . 8 (47.1%) patients with discordance  $> 25\%$  had highest degree of fetal growth restriction (estimated fetal weight  $< 5\%$ ).

Perinatal loss in patients with DC twins was 61.8% (21 of 34 children). Highest mortality [10 of 21 (47.7%)] was among newborns at 22–27 week of gestation with DC type of placentation: 7 – intrauterine death, 3 died postnatally. Seventeen cases of intrauterine death were diagnosed: 7 (41.2%) – 22–27 weeks, 3 (17.6%) – 28–31 weeks, 5 (29.4%) – 35–36 weeks, 2 (11.8%) – at term.

Complications of MC pregnancy: discordant fetal growth – 13 (100%), twin-to-twin transfusion syndrome (TTTS) – 11 (84.6%), fetal growth restriction – 9 (69.2%), cervical insufficiency – 4 (30.8%). Discordant fetal growth was diagnosed in 13 MC twins: 7 (53.8%) –  $\leq 20\%$ , 6 (46.2%) –  $> 20\%$ . Four (30.8%) patients with discordance  $> 25\%$  had selective fetal growth restriction.

Perinatal loss in patients with MC twins was 80.8% (21 of 26 children). Highest mortality [13 of 21 (61.9%)] was among newborns at 22–27 week of gestation: all of them died antenatally. Nineteen cases of intrauterine death were diagnosed: 13 (68.4%) – 22–27 weeks, 4 (21.0%) – 28–31 weeks, 1 (5.3%) – 35–36 weeks, 1 (5.3%) – at term.

**Conclusion:** There were 1.3 times more perinatal losses in MC twins than in DC twins (80.8% vs. 61.8%). Regardless of chorionicity, perinatal losses were observed more frequently at 22–27 weeks of gestation: DC (47.7%) and MC (61.9%) twins. Causes of perinatal loss in DC twins: prematurity – 52.9%, discordant fetal growth ( $> 20\%$ ) – 52.9%, fetal growth restriction – 41.2%. Causes of perinatal loss in MC twins: TTTS – 84.6%, prematurity – 76.9%, fetal growth restriction – 69.2%, discordant fetal growth ( $> 20\%$ ) – 46.2%.

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### Hyaluronic acid solution as a treatment of adhesive intestinal obstruction in children – A positive effect



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**Aim:** To explore the possibility of using hyaluronic acid solution (HAS) for the treatment of intraperitoneal adhesions in children.

**Introduction:** Adhesive intestinal obstruction (AIO) has been found to be a challenging problem of abdominal surgery with increased occurrence in children worldwide. Intraperitoneal adhesions occur commonly after abdominal surgery and frequently cause intestinal obstruction. Current means of adhesion prevention includes good surgical technique and anti-adhesion barriers. This study is hence directed towards the effect of hyaluronic acid solution (HAS) in reducing the incidence and recurrence of adhesions.

**Methods:** 84 children were operated on for AIO. 21 children (25%) were operated on for early adhesive intestinal obstruction (EAIO), 63 (75%) – on late adhesive intestinal obstruction (LAIO) and 12 (14.29%) for recurrent AIO. Following surgery, these children were divided into two groups; group I (56 patients) and group II (28 patients). The Hyaluronic Acid Solution; Defensal was used. Follow-up on the children took place from 1 to 4 years.

**Results:** 13 children (23.21%) in group I were found to have adhesion syndrome in the first year after surgery. This increased to 20 (35.71%) patients over the 4 year period. Children in the II group who had undergone treatment for adhesion syndrome (cured conservatively using HAS) over a 2.5 year postoperative period were not found to have adhesive syndrome at the end of the follow-up period with the exception of 2 (7.14%) patients. When compared to group I patients who had no treatment by the HAS, group II patients showed a higher degree of recovery with minimal recurrence.

**Conclusion:** Although accompanied by a minimal recurrence rate, HAS shows effectiveness as a treatment for adhesive intestinal obstruction in children. This serves as a step further towards a complete prevention of postoperative adhesion common in children.<sup>1–11</sup>

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