

Maternal outcomes after open spina bifida repair: a prospective cohort study of 100 women

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Objective

To define maternal outcomes from surgery to delivery and to collect subsequent fertility, pregnancy, gynaecological and psychological outcomes after the index pregnancy.

Methods

This is a prospective audit of 100 consecutive women undergoing open fetal spina bifida repair at the University Hospitals Leuven, Belgium between 2012-2022. Short-term outcome data were collected from the clinical records and by prompting referring centres and patients. Postoperative maternal and fetal complications from fetal surgery until delivery were defined and graded as per the Maternal-Fetal Adverse Events-Terminology (MFAET, 2021). Mid-term outcomes were obtained by sending a questionnaire querying subsequent fertility, pregnancy, gynaecological and psychological outcomes.

Results

We obtained outcome data from 95 women (95%) from surgery to delivery. There were no maternal deaths and seven (7%) severe maternal complications (anaemia in pregnancy, postpartum haemorrhage, pulmonary oedema, lung atelectasis, urinary tract obstruction, and placental abruption). No uterine ruptures were reported in the index pregnancy. Seventy-two of the 100 invited women (72%) completed the questionnaire on mid-term outcomes at a median of 31 months [IQR 15.5-46.6] after fetal surgery. Despite being advised not to, 7/13 (54%) of women attempting to conceive, did so within two years after fetal surgery and one delivered vaginally. In 16 subsequent pregnancies there were two recurrent neural tube defects, one placenta accreta and one uterine rupture (both with healthy newborn). Around 50% of respondents reported gynaecological complications, yet only half consulted a physician. Three out of four respondents reported long-term psychological problems, mostly anxiety for the health of the index child, fear for recurrence in subsequent pregnancies and feelings of guilt.

Conclusion

The nature and rate of severe short-term maternal complications is similar to that reported in other larger series. Prenatal maternal-fetal surgery for spina bifida did not have mid-term adverse effects on fertility in our cohort. In two out of 16 pregnancies there were severe complications, i. e. one uterine rupture and one placenta accreta. Three out of four respondents reported psychological problems related to what they experienced during and after the index pregnancy.