

Cervical Cerclage in the Setting of Preterm Premature Rupture of Membranes (PPROM)

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ABSTRACT

Preterm Premature Rupture of Membranes occurs in a proportion of women with a cervical cerclage in situ and presents a significant clinical dilemma regarding optimal management. Retention of cerclage beyond 24 hours after PPRM has been associated with prolongation of pregnancy by more than 48 hours; however, it is also linked to increased risks of maternal chorioamnionitis and neonatal mortality due to sepsis. Therefore, immediate removal of cerclage is generally the preferred approach.

Early removal of cerclage following PPRM reduces the risk of infection for both mother and foetus and lowers the incidence of neonatal complications such as respiratory distress syndrome, necrotising enterocolitis, and intraventricular haemorrhage. Importantly, cerclage does not prevent the occurrence of PPRM, which remains a major contributor to preterm birth and associated morbidity and mortality.

INTRODUCTION

PPROM occurring in the presence of a cervical cerclage is associated with substantial maternal, foetal, and neonatal risks, primarily due to infection and prematurity. Management remains controversial, particularly regarding whether to retain or remove the cerclage, balancing the benefits of prolonging pregnancy against the increased risk of infection.

Guidelines from organisations such as the Royal College of Obstetricians and Gynaecologists generally favour cerclage removal in the setting of PPRM.

CASE REPORT

A 33-year-old Arabic-speaking woman presented at 27+6 weeks' gestation shortly after arriving in the UK from Uganda. She reported persistent per vaginal bleeding throughout the pregnancy. She had undergone a McDonald cervical cerclage at 22 weeks' gestation for cervical insufficiency, and prior ultrasound scans had demonstrated anhydramnios, cervical funneling, and dilation. Her pregnancy was further complicated by a large uterine fibroid and reduced amniotic fluid volume. She had no history of type 2 diabetes, gestational diabetes, or hypertension, and her medical history was significant for type 2 female genital mutilation.

On initial assessment, her vital signs were stable with a temperature of 37°C. Abdominal examination revealed a soft abdomen with no uterine contractions. The CTG was reactive and met criteria within 40 minutes. Bedside

ultrasound showed a transverse lie with anhydramnios. On speculum examination, there was brown discharge with a mild foul smell, the cervix appeared closed, and a Prolene cerclage suture was visible posteriorly. Blood tests showed haemoglobin of 100 g/L, WCC of 7.6, and CRP of 47. Departmental ultrasound demonstrated a footling breech presentation with cord presentation, oligohydramnios (MVP 3 mm), an estimated fetal weight of 1.16 kg, a placenta clear of the os, and a 14 cm fundal fibroid.

She was admitted for close monitoring and received magnesium sulphate for neuroprotection along with a full course of antenatal corticosteroids. The initial plan was to remove the cerclage under spinal anaesthesia after the weekend, as removal on the ward was not feasible, and there were no clinical signs of chorioamnionitis at that time. However, the following day, the CTG became non-reassuring, showing reduced variability with a short-term variability (STV) of 2.4. A decision was made to proceed with a Category 2 emergency caesarean section.

The caesarean section was performed without intraoperative complications, with an estimated blood loss of 1.9 litres. Delayed cord clamping was performed. Umbilical cord venous pH was 7.41 and lactate was 2.6. The cerclage was removed intraoperatively, and Postoperatively, her recovery was complicated by pyrexia of unknown origin. She was commenced on intravenous cefuroxime and metronidazole, but the fever did not subside, prompting further imaging and escalation to intravenous meropenem. CT and pelvic imaging showed no evidence of haematoma or bowel or bladder injury, but retained products of conception were identified.

She was subsequently listed for examination under anaesthesia and removal of retained products of conception. Suction evacuation was performed uneventfully with an estimated blood loss of 1000 mL, and a large amount of retained old clots was removed from the uterus. Following this procedure, her fever resolved and her recovery improved. The baby was admitted to the NICU due to prematurity and required ventilation, and was later transferred to a tertiary care hospital due to a perforated bowel.

DISCUSSION

This case highlights the clinical complexity of managing PPROM in the presence of a cervical cerclage. While cerclage retention may prolong pregnancy, it increases the risk of infection, which can adversely affect both maternal and neonatal outcomes.

Although some studies suggest potential benefits of short-term cerclage retention, current evidence and RCOG guidelines support early removal to minimise infectious morbidity.

CONCLUSION

- Cerclage retention in PPROM may prolong pregnancy but carries significant risks of maternal and neonatal infection.
- Current guidelines from RCOG generally recommend removal of cerclage in PPROM.
- This case represents a complex and controversial clinical scenario, where management decisions must balance risks and benefits.
- The approach taken may reflect resource limitations and clinical judgement aimed at prolonging gestation, but it is not aligned with standard guideline and recommendations.

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