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RESCUE CERVICAL CERCLAGE: PREVENTION OF A PREVIABLE BIRTH

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ABSTRACT Pregnancy loss at any stage is distressing especially when this happens later in pregnancy, and this further worsens when it recurs in subsequent pregnancies. The reasons for recurrent pregnancy loss and preterm delivery are diverse and multifactorial. One of the main reasons for these complications is cervical insufficiency, which means the inability of the uterine cervix to retain a pregnancy in the absence of signs and symptoms of clinical contractions, or labor or both in second trimester. **Rescue cervical cerclage** also known as **Emergency cerclage/ rescue stitch** is fundamentally a salvage procedure to prolong pregnancy in women with advanced cervical dilatation or prolapsed membranes in the second trimester. Here, we present a case study of a 25-year-old antenatal woman Gravida 4 Para 0^{+3} with advanced cervical changes at 20 weeks who benefited from the rescue cervical cerclage procedure to have a successful pregnancy outcome.

KEYWORDS : Cervical cerclage, Cervical stitch, Rescue stitch, Emergency cerclage.

INTRODUCTION

Despite the progress of medicine in the last decades, recurrent pregnancy loss, premature birth and related complications are still a vast problem. The use of cervical cerclage in the prevention of preterm delivery was described by Shirodkar in 1955 and then by McDonald 2 years later. ACOG separates out indication for cerclage into 3 categories

- **History:** >/1 of the following
- Second trimester pregnancy losses related to painless cervical dilatation and no history of labor or abruption.
- previous second trimester cerclage for painless cervical dilatation.
- **Physical examination:** Also known as physical examination indicated cerclage, rescue cerclage and emergency cerclage.
- Patient presents with painless second trimester cervical dilatation.
- **Ultrasound:** Cervical length shortening and history of preterm birth
- Singleton pregnancy
- Prior spontaneous preterm birth (< 34 weeks)
- Cervical length < 25mm (at < 24weeks)

Rescue cervical cerclage can effectively prolong a nonviable gestation to viability, if done correctly in chosen patients after appropriate counselling. Contraindications to cerclage include active preterm labor, clinical evidence of chorioamnionitis, continuing vaginal bleeding, PPROM, evidence of fetal compromise, lethal fetal defect, fetal death. The decision to place a rescue suture should be individualized taking into account the gestation at presentation as even with rescue cerclage the risks of severe preterm delivery and neonatal mortality and morbidity remain high. A senior obstetrician should be involved in making the decision. Rescue cerclage is associated with two-fold reduction in the chance of delivery before 34 weeks of gestation. However, there are only limited data to support an associated improvement in neonatal morbidity and mortality.

CASE REPORT

A 25-year-old G4A3 woman at 20 weeks gestation presented to the outpatient clinic of Government General Hospital, Kurnool with TIFFA scan showing 'U' shaped cervical funneling measuring 14mm and cervical length 3.5cm, no gross congenital anomalies seen. There was no history of abdominal pain, vaginal discharge, fever and liquor drainage, no history suggestive of urinary tract infections. She revealed a history of 3 pregnancy losses in the last 4 years at 16weeks, 20 weeks, 20 weeks respectively. There were no significant findings on general physical examination at presentation. Abdominal examination revealed gravid uterus about 20 weeks size. On per speculum examination posterior cervical lip was invisible with 3cm dilatation of cervix and membranes bulging through the external cervical os. The patient was admitted, investigations (blood grouping and typing, complete hemogram, complete urine analysis, viral screening, vaginal, cervical, urine cultures) done. Ultrasound showed a single live fetus corresponding to 20weeks with fundal placenta and adequate liquor. After explaining all the risks and benefits of the emergency cerclage and written consent, patient was taken for the procedure. She received a stat dose of intravenous ceftriaxone before the procedure. Emergency cerclage was planned under short general anesthesia. Patient was placed in Trendelenburg position and operative field cleaned with antiseptic solution and draped. Using sims speculum anterior and posterior vaginal walls were retracted to expose the cervix which was 3cm dilated with membranes bulging through it. Holding the anterior cervical lip with a sponge holder, a 18FR foleys catheter was carefully introduced between the bulging membranes and cervical lips on right side and bulb inflated with 10ml normal saline, which reduced the bulging membranes to 60%. Another foleys catheter was introduced on the other side in similar way and inflated, which completely reposited the bulging membranes. McDonald's stitch was applied using No 1 black silk with round body needle taking 4 bites from 11'0 clock – 10, 8-7, 6-4, 2-1'0 clock positions and knot tied anteriorly to close the cervical os, after deflating and removing foleys catheters. In the postoperative period, the patient was kept in head low position for 24hours and administered antibiotics (Inj. ceftriaxone 1g iv BD), tocolytics (Inj.MgSO4 2gm stat followed by 1gm/hr. drip for 24hours) and Tab. Susten 300mg bd was continued. Patient was discharged after 1 week of observation. Routine maternofetal surveillance was followed. The pregnancy thrived well till 34+4weeks when she developed premature rupture of membranes. A preterm fetus of 2kg was delivered vaginally. The neonate was admitted in NICU for observation and later discharged

DISCUSSION

Treatment options with advanced cervical dilatation are

limited to expectant management versus placement of an emergency cervical cerclage. These 2 options may carry a significant risk, as a result, clinicians typically face a major dilemma in this setting.

- Namouz et al. conducted a literature review in 2013 including 34 studies, which included majority of observational and limited randomized controlled trials. Their data suggested that rescue cerclage was associated with a longer latency period and better pregnancy outcomes when compared with bed rest.
- Stupin et al. conducted a retrospective trial on 161 women with amniotic sac prolapse. Improved perinatal outcome-live birth rate, birth weight was seen in the cerclage group.
- Study by Olatunbosun et al., it was found that women treated with cerclage required a significantly shorter period of antepartum hospitalization, decreased use of tocolytics, and experienced less preterm membrane ruptures compared to women in the bed rest group.
- Recent National Institute of Clinical Excellence (NICE) guidelines recommend that rescue cervical cerclage should be considered for women between 16 and 27 weeks with a dilated cervix and exposed unruptured fetal membranes. However, benefits of cervical cerclage are more when applied at earlier gestations.

CONCLUSION

Emergency cervical cerclage is a simple surgical procedure with lower complication rates and can effectively prolong gestation to viability. It is associated with minimal morbidity and a >50% chance of survival for the infant, we urge that this procedure be considered for the patient with cervical dilatation in the mid-trimester who is not in labor, and is without evidence of infection and placental abruption.

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