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## Elective Cerclage Followed By Rescue Cervical Resuture: A Case Study

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### Abstract

Cervical cerclage is a term given to various surgical procedures that involve placing sutures, wires or tape on the cervix as an attempt to mechanically increase the tensile strength of it. Hence, reducing the complications of cervical incompetence. Several adverse events can occur in pregnancy due to cervical incompetence like fetal loss, prolapse of the fetal membranes into the vagina and Intraamniotic infection. Cervical incompetence is the inability of the uterine cervix to retain a pregnancy in the second trimester in the absence of clinical contractions, labour, or both. The efficacy of cerclage in managing and preventing complications of cervical incompetence, versus conservative management is controversial. This case report discusses the management of a 40-year-old female, G3P0A2, who presented at 23+3 weeks of gestation, on a cervical cerclage, complaining of mild PV spotting. When examined it was found that her cervical os was 3 cm-4 cm dilated and the amniotic membrane bulging through the external os, without any fetal parts. The patient did not have any abdominal pain. She was taken for a rescue cervical resuture. Postoperatively she was managed with complete bed rest, prophylactic clexane and IV antibiotics.

**Keywords:** Cervical incompetence; Cerclage; Perinatal outcome; Resuture

the Membranes (PPROM), Preterm labour and delivery and Fetal loss. Cerclage can be history indicated, an ultrasound indicated and physical examination indicated [2-5].

The two most common techniques used are McDonalds and Shirodkar [6]. Structural cervical weakness accounts for a minority of mid-trimester loss cases. Moreover, the efficacy of cerclage in managing and preventing complications of cervical incompetence, versus conservative management is controversial. A retrospective cohort study conducted at Duke University Hospital from 1996-2011 has shown that despite receiving a physical examination indicated rescue cerclage, women who had a cervical dilatation of >2 cm at 16 weeks delivered at an earlier gestational age than people who had <2 cm dilatation [7]. Another study conducted in Izmir, Turkey between the year 2007 and the year 2011 showed that rescue cerclage provided satisfactory time for the fetus to gain viability [8].

A cross-sectional study was conducted in Turkey in the year 2017 on 27 patients who underwent the Macdonalds method of cervical cerclage as management for prolapsed amniotic membrane. 17% of those women in comparison to ones who were on complete bed rest delivered after 28 weeks; and the take-home baby rate was 63% [9].

We are reporting a case of a G3P0A2 at 23+3 weeks who presented post History indicated cervical cerclage with cervical dilatation and a bulging amniotic membrane.

### Case Report

A 40-year-old female patient, not a known cause of any medical illnesses presented to the OBGYN department of Salmaniya medical complex in the kingdom of Bahrain on 29/9/2019. She was G3P0A2 at 23+3 weeks of gestation, IUI pregnancy, LMP: 17/4/2019, spontaneous singleton pregnancy, complaining of mild PV spotting. She had no other complaints. The patient was already on a cervical cerclage that she had done at 16-week gestation in view of her obstetric history (history of previous 2 mid-trimester miscarriages).

Upon speculum examination: the cervix was 3 cm-4 cm dilated, the amniotic membrane was protruding through the external os, with no visible fetal parts. There was no liquor drainage. The cervical stitch was in place, loose.

### Introduction

Cervical cerclage is a term given to various surgical procedures that involve placing sutures, wires or tape on the cervix as an attempt to mechanically increase the tensile strength of it. Hence, reducing the complications of cervical incompetence.

Cervical incompetence is defined as "the inability of the uterine cervix to retain a pregnancy in the second trimester in the absence of clinical contractions, labour, or both" [1]. The term is used interchangeably with cervical insufficiency. Adverse events in pregnancy associated with cervical insufficiency include Prolapse of the fetal membranes into the vagina, Intraamniotic infection, Preterm Premature Rupture of

Routine labs, along with inflammatory markers, a urine culture and a high vaginal swab were collected (**Table 1**). An ultrasound was also done (**Table 2**).

**Table 1:** Investigations.

	29/9	8/10	11/10	13/10	17/10	20/10	23/10	26/10
<b>WBC</b>	8.78	7.31	8.89	9	9.14	8.83	10.13	10.72
<b>Hb</b>	12.8	12.7	11.5	11.3	11.4	12	11.2	11.3
<b>Plt</b>	172	141	196	194	192	209	160	150
<b>Esr</b>		35	30	39	35	35	29	32
<b>CRP</b>	2.68		5.61	2.24	0.92	0.78	1.98	1.17
<b>Urine</b>						25	0-2	0-2

The patient was admitted, kept on IV antibiotics and was booked for a rescue cerclage at 23+6 weeks. 2 doses of Dexamethasone were given intramuscularly. The cerclage was physical examination indicated. All the risks associated with the procedure were explained to the patient; including the risk of fetal loss. The patient understood and consented.

Intraoperatively, the bladder was drained, a Sims speculum was used to visualise the cervix. The anterior and posterior lips of the cervix were held using ovum forceps. The amniotic membrane was reduced back into the uterus using an inflated bulb of a sterile foleys catheter. The cervix was stitched using mersilene tape, and the knot was kept at 7 o'clock. The old stitch was then removed. A second cerclage was then placed, the knot kept also at 7 o'clock; to ensure optimal closure of the cervix.

Postoperatively, the patient was advised to complete bed rest with a bathroom privilege once per day.

She was continued on prophylactic antibiotics and was started on clexane 4000 IU OD for DVT prophylaxis. Proluton-D was prescribed twice weekly. At 24+4 weeks, the patient was complaining of a mild amount of light red PV discharge that gushes out when she uses her bathroom privilege. She was diagnosed as PPROM and was continued on the same management. Serial Ultrasounds were done to monitor fetal wellbeing; the fetus has grown in size but the liquor was on the lower side (**Table 2**). Routine labs were also routinely repeated and were within normal. GTTP was high and after BSP, the patient was diagnosed with gestational diabetes and was kept on diet control. The management aims to reach the age of viability and to prolong the pregnancy as much as possible with close monitoring of the patient and fetal wellbeing. On 27/10/2019, at 27+4 weeks of gestation, the patient was shifted to the labour room with uterine contractions and liquor drainage. An ultrasound was done which showed some liquor around the fetus; so a decision for conservative management was made. The patient was kept on MgSO<sub>4</sub> 1 mg/hr for 24 hours, for fetal neuroprotection, 2

repeat doses of dexamethasone were also given and the patient was kept under observation. On the same day in the afternoon, 25 days after her rescue cerclage, the patient complained of abdominal pain and PV bleeding; suspecting placental abruption; the patient was taken for an emergency cesarean section under spinal anaesthesia after her cerclage was removed. She gave birth to a live female baby, extracted as breech, weighing 1.1 kg. The baby was intubated and shifted to the NICU. On 29/10/2019, second-day post-op, two spikes of fever were reported. Septic workup was negative except for scanty *E. coli* found in the uterine swab that was taken intraoperatively. The patient had no other complaints. The baby was discharged from the NICU after 90 days.

**Table 2:** Serial U/S.

U/S	EFW	AFI
30/9	600 grams	7 cm
08/10	715 grams	5 cm
10/10	-	4 cm
23/10	1 kg	5.5 cm
27/10	-	2 cm

## Discussion and Conclusion

Although the efficacy of rescue cerclage is controversial, we found it to be the optimal option for our patient to prolong her pregnancy and to increase the chance of neonatal survival. Considering that the patient is 40 years old with no live issue, it is justifiable to use all possible measures to save her pregnancy. However, the rescue cerclage did not significantly prolong the duration of pregnancy. The patient was involved in the decision making.

A retrospective observational study between 1985 and 2009 showed that elective and ultrasound indicated cervical cerclage had low complication rates and high live birth rates. Rescue cerclage had a high complication rate and was associated with poor outcome [10].

It is also known that one cerclage is usually adequate if placed well. However, in some cases, an inadequate initial cerclage is used for traction, and then a second cerclage is placed in closer proximity to the internal os. When the cervical os is significantly dilated with bulging membranes; a second cerclage may be used for an optimal closure. This was what we did for our patient. Also, if two cerclages are placed, they are usually removed at the same time. Some clinicians routinely use a second cerclage. However, studies show no improvement in the outcome with this practice [11,12]. In addition, a randomized trial found that placing a second stitch at the external os to keep the mucus plug in place (termed cervical occlusion) did not positively impact the time of delivery, time of NICU stay or neonatal mortality [13].

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