Original Article

A Clinical Case Report on Cervical Cerclage

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Abstract

Background: A common surgical treatment performed during pregnancy is cervical cerclage. It entails placing a suture (stitch) across the womb's neck (cervix), to provide the cervix with mechanical support and lower the risk of preterm birth. This procedure's electiveness and safety are still debatable. Presentation of the case the author presented a 30-year-old female who came to the tertiary hospital with a chief complaint of Amenorrhea, Nausea, and Vomiting in the last 6 Months. The patient had a history of infertility for 2 years, and they have taken infertility treatment in tertiary care hospital. Mechanical dilatation was done. Cervical dilatation 4.5cm. Cervical encerclage done. After 2 weeks USG report showed a bicornuate uterus single intrauterine fetus with absent cardiac Activity and fetal movement, average gestational age of 18 weeks 4 days, and corresponding to weight OF 249gms S/O fetal demise. After that abortus delivery was done under all aseptic precautions, a male abortus was delivered by Vertex presentation. The baby did not after birth. The baby did not show any signs of life after birth. The cord was clamped and the cut Placenta was delivered with intact membranes and cotyledons. Pack inserted, Uterine cavity exposed for clots and tears. Blood loss is minimal. Pack removed. 200 GMS of placenta delivered with intact membranes and cotyledons. APGAR- 0/10, 0/10, No Cry. Baby and placenta sent for HPE. Histopathology reports are awaited. She received treatment Inj C-Tax 1 Gm For 5 Days, Inj pan 40 mg 5 days, Inj doxy iv 2 days, Inj Emset 4 cc 2 days, tab Duvad 10 mg 3 days, Tab Ecosprine 150 mg 6 days, Tab Labet 100 mg days, Tab Dolo 650 mg 3 days, Tab Iron OD days, Tab calcium days, Protein powder 2tsp 4 days. After that patient was discharged and advised to the client's high protein diet, adequate fluids, not lifting heavy weight, not sitting cross legs for 1 month, and perineal hygiene. Tab Iron Od 3 Months, Tab calcium od months, protein powder 2 tsp 3 months.

Keywords: Infertility, Cervical Encerclage, cotyledons, Cervical incompetence, Abortus Delivery, Oligospermia.

INTRODUCTION

Normal pregnancies can go to full term because the cervix, the neck of the womb, remains securely locked. The cervix begins to shorten and gradually gets so Ger (more favourable) toward the end of pregnancy; these changes are physiological setups for typical labor and birth. The cervix can occasionally begin to shorten or dilate too before, leading to either a late preterm birth or miscarriage. This pathological situation is thought to be caused by cervical incompetence when there are no uterine contractions (sometimes also called incompetence).

The disorder was first described in the seventeenth century. Cervical incompetence may complicate roughly one percent of obstetrical cases (McDonald 1980) and eight percent of cases of repeated miscarriage in women who had lost pregnancies in the middle of the third trimester (Drakeley 1998). Cervical incompetence, however, lacks a standardized definition (Berry 1995), which makes it difficult to determine the true occurrence.

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Cervical insufficiency, according to some studies, is "the history of painless cervix dilation leading to 2 or 3 trimester birth or the passage, deprived of resistance, of size nine Hegar dilator". Another Definitions is repeated miscarriages brought on by the uterine cervix's incapacity to carry a gravidity to term is a physical weakness in the tissue of cervix that is either inherited and acquired, meaning that it was brought on by prior trauma .1

Normally, during pregnancy, uterus opening and the cervix, remains strongly locked. On rare occasions, it begins to open early, which causes miscarriage. This happens again for some women in following gestations. If the miscarriage happens in the 1or 2 trimester, the reason can be a cervical weakness (incompetence). Cervical cerclage is a surgical procedure that involves put in a stich to maintain the cervix locked. The analysis of trials revealed that neither preventative nor therapeutic cervical stitching for a short cervix on ultrasonography resulted in a significant all over decrease preterm delivery rates or miscarraged.2

Any stage of pregnancy loss is upsetting, but the loss later on in the pregnancy is particularly distressing. Extreme preterm may have detrimental effects as well because babies who survive may still be handicapped.3 During pregnancy, the cervix typically remains completely closed, with a mucus plug covering the entrance. The cervix starts to dilate at the beginning of labor, preparing for childbirth. Sometimes the cervix opens up before the pregnancy, which results in a miscarriage.4

Case presentation

The author presented a 30-year-old female who came to the tertiary care hospital with a chief complaint of Amenorrhea, Nausea, Vomiting in the last 6 Months, LMP: 17/2/22, EDD: 24/11/22, POG 22.6 WKS, PMC: 3-4 DAYS/ 28DAYS. Dr diagnosed primigravida at 22.6 wks. with rat positive came for safe confinement. The patient had a history of infertility treatment in the tertiary care hospital, diagnostic hysteroscopy is done 6 months back in the same hospital, and her husband had a history of male infertility treatment (oligospermia) taken in tertiary care hospital Sawangi Meghe Wardha. At present Patient had a history of HTN in the last 1 month on the Tablet. LABEL 100MG OD. Hospitalization in 5th month of pregnancy for oligohydramnios, Iron, and 5 months of pregnancy, No any history of DM, TB, Thyroid, Epilepsy, and No any history of major medical/ surgical illness. The doctor carried out Investigations on the HIV test that is Negative, HBSAG: test Negative, BG: B positive, RAT came positive, IVO SAES-COVS-2 positive, ADV-RTPCR, CRP, ESR, CXR-PA VIEW. Mechanical dilatation was done. Cervical dilatation 4.5cm. Cervical cerclage was done on the patient after taking informed, valid, written consent patient was taken on OT table, induced with saddle block, Lithotomy position given, Portions cleaned, painted covered. The posterior vaginal wall was retracted with sims speculum, the anterior lip of the cervix held with sponge holding forceps. Stitch taken on 3,6,9,12 clock position with prolene 1-0 after securing first-knot multiple knots were taken 2cm away from the first knot, loop made, left in situ. Haemostasis achieved. The patient withstood the procedure well. After 2 weeks USG report showed a bicornuate uterus single intrauterine fetus with absent cardiac Activity and fetal movement, average gestational age of 18 weeks 4 days, and corresponding to weight OF 249gms S/O fetal demise. After that abortus delivery was done under all aseptic precautions, a male abortus was delivered by Vertex presentation. The baby did not after birth. The baby did not show any signs of life after birth. The cord was clamped and the cut Placenta was delivered with intact membranes and cotyledons. Pack inserted, Uterine cavity exposed for clots and tears. Blood loss is minimal. Pack removed. 200 GMS of placenta delivered with intact membranes and cotyledons. APGAR-0/10, 0/10, No Cry. Baby and placenta sent for HPE. Histopathology reports are awaited. She received treatment Inj C-Tax 1 Gm For 5 Days, Inj pan 40 mg 5 days, Inj doxy iv 2 days, Inj Emset 4 cc 2 days, tab Duvad 10 mg 3 days, Tab Ecosprine 150 mg 6 days, Tab Labet 100 mg days, Tab Dolo 650 mg 3 days, Tab Iron od days, Tab calcium days, Protein powder 2tsp 4 days. After that patient was discharged and advised to the client’s high protein diet, adequate fluids, not lifting heavy weight, not sitting cross legs for 1 month, and perineal hygiene. Tab Iron Od 3 Months, Tab calcium od months, protein powder 2 tsp 3 months.

Discussion

A cohort of women with prior risk factors for preterm birth and late miscarriage was initially examined in Dutch research. Two Amsterdam hospitals were employed in this trial. Prophylactic cerclage is described in the first RCT based on historical data and reports from 70 women. If a woman's cervical length dropped to less than 25mm and she was pregnant for less than 27 weeks, the second randomization was permitted for the initial "no stitch" group described in the second paper. In this case, women were randomly assigned to either therapeutic cerclage plus bed rest or bed rest alone. Each woman was given a five-day hospital stay. The first two days were spent entirely in bed. They were finally allowed to use the restroom on the third day. On the fourth, they were permitted to mobilize three times for a total of one hour. They adhered to the same protocol at home for up to 32 weeks. A stitch or ultrasound surveillance was first randomly assigned to the women in a ratio of two to one, and analysis was done to treat for both papers. Although a practical technique, the design of this study made it challenging for reviewers to enter data because the results were confounded by the second randomization after the initial randomization.6-10

In a single tertiary center, Rust 2001 from the USA presented randomized data for 113 women. Choosing dynamic imaging of the cervix and four measures, they used a composite cervical score (Benham score), once again using 25 mm distal

length as a crucial cut-off. Before randomization, all of the women in the Rust 2001 study underwent amniocentesis to rule out chorioamnionitis.11-15

A total of 2175 women from six studies were examined. In four trials, prophylactic cerclage and no cerclage were compared. Although a slight decrease in births under 33 weeks of gestation was observed in the largest trial (relative risks 0.75, 95% confidence interval 0.58 to 0.98), there was no overall reduction in pregnancy loss and preterm delivery rates. The use of tocolytic treatment, hospital hospitalizations, and cervical cerclage were all linked with mild pyrexia, but no significant morbidity. When an ultrasound indicated a short cervix, two trials investigated the role of therapeutic cerclage. In women assigned to cervical cerclage, pooled findings failed to demonstrate a reduction in total pregnancy loss, early pregnancy loss, or preterm delivery before 28 and 34 weeks.16-18

One of the researchers established the cervical cerclage's effectiveness in avoiding repeated preterm births. 6060 multiparous women who had previously experienced premature birth were examined. 6043 participants were included in the study after 17 patients with unclear grounds for cervical cerclage were excluded. The risk of preterm delivery in following pregnancies for any of the pregnancy periods was not decreased by history- and ultrasound-indicated cerclage ($p = 0.413$, $p = 1.000$). Contrarily, throughout all stages of pregnancy, physical examination-recommended cerclage markedly decreased the chance of recurrent preterm births (p 0.001). Only those cases where cerclage was suggested by a physical examination significantly averted further preterm births. There were no statistically significant variations in subsequent preterm births for histories or ultrasounds that indicated cerclage.19-21

Globally, 26 million children under the age of 1 died in 2016, with 35% of those deaths being related to premature birth. As a result, preventing and treating preterm births are crucial for lowering the rate of infant fatalities. According to prior surveys and reports from other countries, the likelihood of preterm births rises in direct proportion to the frequency of preterm births in the past, as determined by a national database for Japan. Therefore, preventing future preterm births could result in a reduction in the overall rate of infant death. Long used as a preventative measure for premature births is cervical cerclage. Only lately have the preventative uses of Arabian pessary, vaginal progesterone pessary, and intramuscular 17-hydroxyprogesterone caproate (17-OHPC) injections been documented. Because alternative preventive measures (progesterone, Arabin pessaries, and 17-OHPC) are not covered by insurance in Japan, the success of cerclage is particularly crucial. It can be categorized as being indicated by history, an ultrasound, or a physical exam. For pregnant women with a history of preterm birth, a cerclage is performed at 12–14 weeks if the history warrants it. Randomized control trials were conducted in 1984 and 1993 to determine whether history-indicated cervical cerclage is effective in avoiding preterm birth in high-risk women.20

The Medical Research Council/Royal College of Obstetricians and Gynecologists Working Party demonstrated efficacy only in instances with a history of 3 preterm births, while Lazar et al. demonstrated no efficacy. When a cervix is >1-2 cm dilated and there are no apparent uterine contractions, cerclage as indicated by a physical examination should be taken into account.

Physical examination-indicated cerclage extended pregnancies by 4 weeks in 2003, according to Althuisius et al. Other research groups have also demonstrated its effectiveness. But there hasn't been a randomized control trial to assess its performance in singleton pregnancies. A comprehensive study and meta-analysis demonstrated the effectiveness of cerclage when it is recommended by a physical examination in preventing preterm birth. According to their research, compared to no cerclage, physical examination-indicated cerclage is associated with a significantly higher infant survival rate and a pregnancy extension of roughly one month. Additionally, this cerclage's effectiveness in avoiding premature birth in twin pregnancies has just been demonstrated. For pregnant women with a cervical length of 25 mm before 24 weeks of gestation, an ultrasound-indicated cerclage is performed. According to the Cochrane research from 2017, cervical cerclage may reduce the likelihood of preterm birth in high-risk preterm cases compared to the non-cerclage group. Cervical cerclage was claimed to have the ability to decrease preterm birth in high-risk preterm birth cases, however, its effectiveness by indication could not be proven. In the current study, we re-examined the effectiveness of each cervical cerclage in cases with high risks of preterm birth using the national database.21

Conclusion

Regardless of the cervical length determined by ultrasonography, the use of a cervical stitch should not be made available to women who are at low or moderate risk of mid-trimester loss. Since there aren't enough randomized women to make strong conclusions, it's unclear what the role of cervical cerclage is for women whose cervix seems short on ultrasound.

COMPETING INTERESTS: Nil

FINANCIAL RESOURCE OF THE STUDY: Self

CONSENT: Patient’s written consent had been taken.

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