LAPAROSCOPIC CERCLAGE DURING PREGNANCY

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Abstract

Cervical incompetence is characterized by painless cervical dilation in the second or early in the third trimester, with prolapsed membranes and expulsion of an immature fetus. This condition associates a high rate of prematurity induced mortality and morbidity. An effective treatment of cervical incompetence is the cervical cerclage which can be performed transvaginally or transabdominally (via laparoscopy or via laparotomy). This consists in the placement of a suture in order to increase the tensile strength of the cervix. The objective of this article is to report the case of a 29 years old female patient with a history of cervical incompetence that was successfully treated by laparoscopic cerclage.

Rezumat: Cerclajul laparoscopic în sarcină

Incompetenţa cervicală este caracterizată de dilatarea cervicală nedureroasă în al doilea trimestru sau începutul trimestrului trei, cu prolabarea membranelor şi expulzia unui făt imatur. Această afecţiune se asociază cu un risc crescut de morbiditate şi mortalitate datorate prematurităţii. Un tratament eficient pentru incompetenţa cervicală este cerclajul, care poate fi realizat transvaginal sau transabdominal (prin laparotomie sau prin laparoscopie). Această procedură constă în aplicarea unei suturi cu scopul de a creşte rezistenţa colului. Obiectivul acestui articol este de a raporta cazul unei paciente de 29 ani cu o sarcină de 9 saptămâni şi antecedente de incompetenţă cervicală care a fost tratată cu succes prin cerclaj laparoscopic.

Cuvinte cheie: sarcină, incompetenţă cervicală, cerclaj, laparoscopie

Introduction

Cervical incompetence is characterized by painless cervical dilation in the second or early in the third trimester, with prolapsed membranes and expulsion of an immature fetus [1]. The estimated incidence of cervical insufficiency affecting pregnancy is as high as 1%. Cervical cerclage placement is the treatment of this condition [2]. Transvaginal cerclage is the first option treatment, but there are cases when due to local conditions the procedure cannot be performed. In case of extremely short or absent cervix, deeply lacerated or severely scarred cervix from previous failed cerclage, the placement of a transvaginal cerclage is extremely difficult and with low chances of success. In those situations the laparoscopic route offers the advantage of a better access for the placement of sutures at the

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level of the uterine isthmus. Data available in literature suggests that this procedure can be performed in non pregnant women but also during pregnancy.

Case report

We present the case of a 29 years old female patient with a 9 week pregnancy. She had a history of 2 previous miscarriages at 18 and 20 weeks of gestation due to cervical incompetence. At speculum examination, the presence of a totally dilacerated cervix was noticed. We considered the local conditions inadequate for the performance of the transvaginal cerclage. Therefore, the treatment plan was to perform a laparoscopic cerclage.

Step by step description of the surgical technique:

A full inspection of the peritoneal cavity was performed. The anterior leaf of the broad ligament was coagulated and cut in order to gain access to the paravesical fosse. The cervico-vesical space was dissected. The cerclage tape was introduced under visual control. A 5mm Mersilene non absorbable tape with one needle at each end of the tape was used. The tape was passed from the posterior side towards the anterior side of the uterus (figure 1 a). The passage of the tape was medial to the vascular pedicle, in the full thickness of the isthmus (figure 1 b). Thus, the vascularization of the uterus was not impaired by the placement of the tape. The tape was secured by intracorporeal knots (figure 1 c), and covered with peritoneum. The patient recovered well after surgery and was discharged the second day after the procedure. The pregnancy continued uneventful and the patient delivered at term by elective cesarean section a healthy 3350 grams baby.

Discussion

The advantages of the transabdominal cerclage versus vaginal cerclage include: higher placement relative to the level of the internal os, decreased risk of suture migration, and the ability to leave the stitch in place in between pregnancies. Laparoscopic cerclage offers all of the benefits of the transabdominal route, but with reduced blood loss, reduced postoperative pain, fewer adhesions, as well as decreased length of hospital stay and overall faster recovery time.

Laparoscopic cerclage placement can be performed prior to conception or during early pregnancy [2]. Preconceptional placement has certain advantages. It provides good exposure, the uterus is smaller, less vascularized and can easily be manipulated. On the other hand, placement of the cerclage after the first trimester is more difficult because of the increase in uterine volume that narrows the surgical field.

The complications of laparoscopic cerclage are similar to those associated with the transabdominal cerclage and are estimated at 3.4% [1, 2]. They include bleeding from the uterine vessels, perioperative pregnancy loss, infection and thromboembolism.

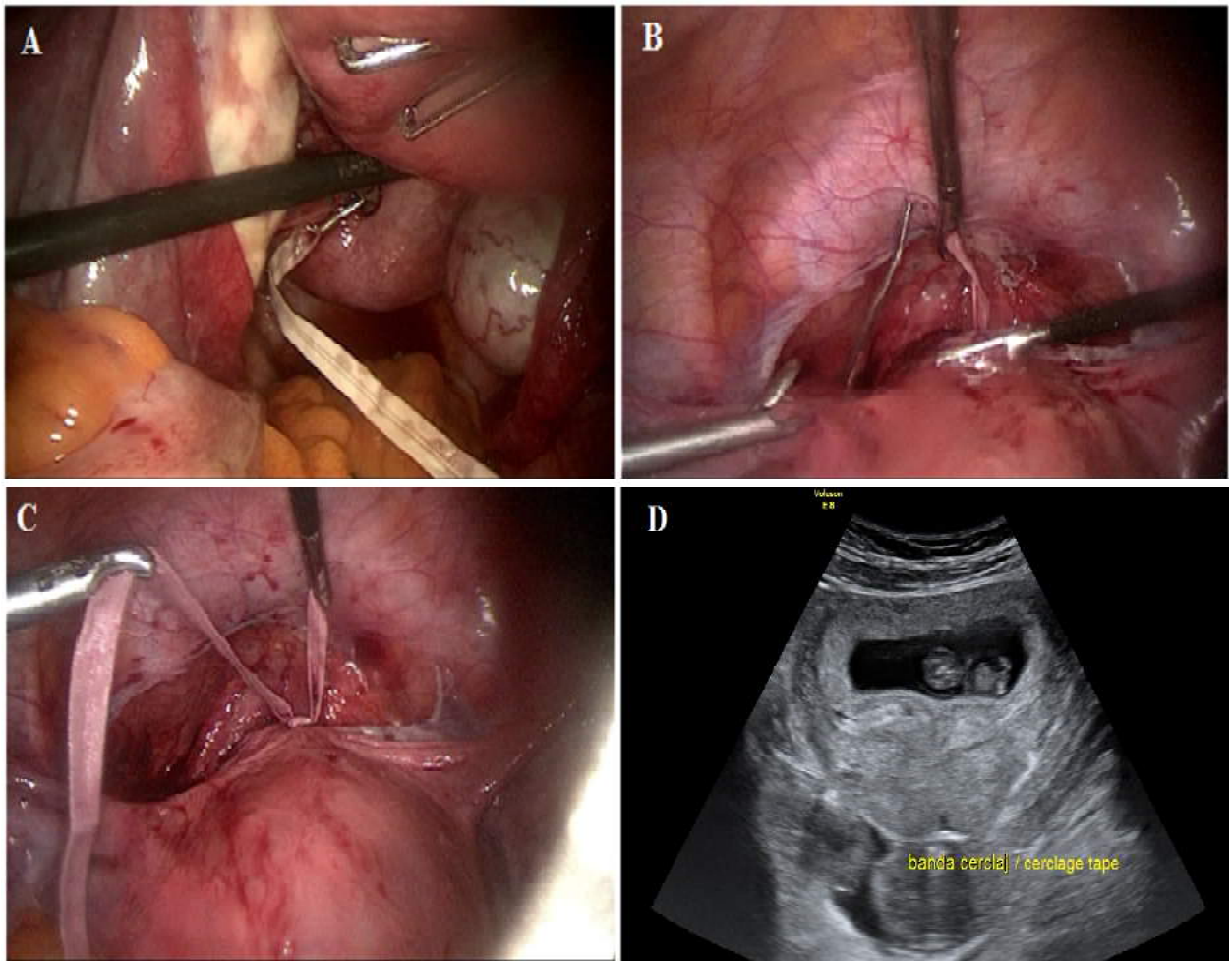
Huang et al performed a study including 100 patients where laparoscopic cervical cerclage was the treatment option for cervical incompetence. The mean operating time was 26 minutes. They obtained a live birth rate of 94.5% and the mean gestational age at delivery was 37.5 weeks. They concluded that laparoscopic cerclage is equal to or may be better than abdominal cerclage by laparotomy and could replace the laparotomy technique [3].

On the other hand this procedure requires higher skills in laparoscopic suturing and dissection, and should probably be performed in centres with experience in laparoscopic surgery.

Another aspect would be the delivery route. After this type of procedure the cervix will not be allowed to dilate during labour so cesarean section is mandatory.

Conclusion

Cervical cerclage placed via laparoscopy either during or before pregnancy is safe and effective, with a better therapeutic effect and outcome than second trimester transvaginal cerclage placement [3].



Legend of figures

Figure 1: a – passage of the Mersilene tape from the posterior side towards the anterior side of the uterus; **b** – passage of the tape medial to the vascular pedicle, in the full thickness of the isthmus; **c** – aspect of the tape secured by intracorporeal knots; **d –** ultrasound aspect of the cerclage tape

References

1. Al-Fadhli R, Tulandi T. Laparoscopic Abdominal Cerclage. Obstet Gynecol Clin North Am. 2004 Sep;31(3):497-504, viii.

2. Shiber L D , Lang T, Pasic R. First trimester laparoscopic cerclage. J. Minim Invasive Gynecol. 2015 Jul-Aug;22(5):715-6. doi: 10.1016/j.jmig.2015.03.007. Epub 2015 Mar 18.

3. Huang X, Ma N, Li TC, Guo Y, Song D, Zhao Y, Xia E. Simplified laparoscopic cervical cerclage after failure of vaginal suture: technique and results of a consecutive series of 100 cases. Eur J Obstet Gynecol Reprod Biol. 2016 Jun;201:146-50. doi: 10.1016/j.ejogrb.2016.04.008. Epub 2016 Apr 11.