

## Treatment of a Recurrent Vaginal Obstruction With a Modified Mold After an Excision of a Transverse Vaginal Septum

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**Background:** A vaginal obstruction often occurs as a complication in women who had previously undergone an excision of a transverse vaginal septum. The use of a mold coated with membranes in the correction surgery provides a good healing prognosis. **Objective:** To report a case of a treatment of a recurrent vaginal obstruction with a modified mold after undergoing an excision of a transverse vaginal septum in a 15-year-old woman. **Result:** A follow-up on the patient, four months after using the modified mold, showed a regular menstrual cycles without a sign of vaginal narrowing, an infection, nor a complaint. **Conclusion:** The treatment using a modified mold, for a recurrent vaginal obstruction after an excision of a transverse vaginal septum, is a new innovation with a satisfactory result.

**Keywords:** recurrent vaginal obstruction, transverse vaginal septum, mold modification, the membranes.

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### INTRODUCTION

Obstruction of the vagina is a case of female genital anomalies, a rare case of a blockage of the vaginal canal. It causes an accumulation of the menstrual blood, and the vaginal and the cervical secretions. Vaginal obstruction is most often caused by congenital abnormalities, although there are some cases of vaginal obstruction occurred due to an infection process.<sup>1,2</sup> Vaginal obstructions also often occurs as a complication in women who had previously undergone an excision of a transverse vaginal septum. Women who experience vaginal obstruction often seek a doctor help with complaints of a cyclic lower abdominal pain, an amenorrhea and a previous history of vaginal surgery.<sup>3</sup>

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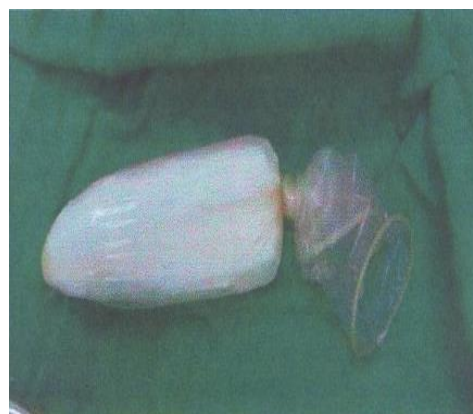
According to Nassif et al., the incidence of a postoperative vaginal obstruction recurrence is 15-20%.<sup>3</sup> The basic principle of the obstruction handling is to free tissues attached to one another. Various surgical techniques have been performed by gynecologists in the world. However, there has not been an agreement on what the most successful surgical technique is in preventing vaginal obstruction caused by an obstruction of the transverse vaginal septum after excision. The suggested techniques include the use of postoperative mold, or a continual use of vaginal dilators<sup>4</sup> in 2000, Kim *et al* used membranes to support a proper wound healing. It has been pointed out that the membranes containing proteinase inhibitors can inhibit the proteinase in the formation of fibrosis.<sup>5</sup>

Zafar *et al* report cases in 2006 which used a mold coated with membranes and it provides a good healing prognosis.<sup>6</sup> A successful use of membranes to support the wound healing and to prevent a scarring and an obstruction was reported in up to 83.3%<sup>7</sup> The installation of vaginal mold lined with

membranes has no report of negative reactions.<sup>8</sup> Given the high rate of recurrence and the increasing difficulty of handling vaginal obstructions after excision of a transverse vaginal septum, it is necessary to have a new innovation in handling them. This study presents a case of a vaginal obstruction treatment on a young woman who experienced recurrent vaginal obstruction after excision of the transverse vaginal septum. In this case, a modified mold lined with membranes was used.

### CASE REPORT

A 15-year-old adolescent woman complained an abdominal pain and could not have a menstrual period for 3 months after the surgery of a transverse vaginal septum, with a history of vaginal surgery 7 months ago to treat a primary amenorrhea caused by a transverse vaginal septum. A regular menstruation was established for 3 months after the surgery of the transverse vaginal septum, and then followed by a secondary amenorrhea. A gynecological examination and an ultrasound examination supported the presence of hematometra and hematocolpos resulted from a vaginal obstruction after the excision of the septum. The patient was given a surgery to open the obstruction and a modified mold was fixed by installing a nasogastric tube in it that serves as an irrigation channel of blood and vaginal fluid. The mold was coated with a fresh amniotic membrane, obtained from donors who had been prepared for an elective cesarean section surgery on the same day. The mold was maintained for 10 days in the vagina. On the tenth day, the mold was released and an irrigation was performed with a physiological fluid. Next, the patient was recommended to use a vaginal dilator coated with a condom for 2 to 4 months. After the surgery, the patient's quality of life improved. It was characterized by the loss of pain in the lower abdomen. A follow-up in 2 weeks showed no sign of obstruction, and the vaginal wall had healed well.



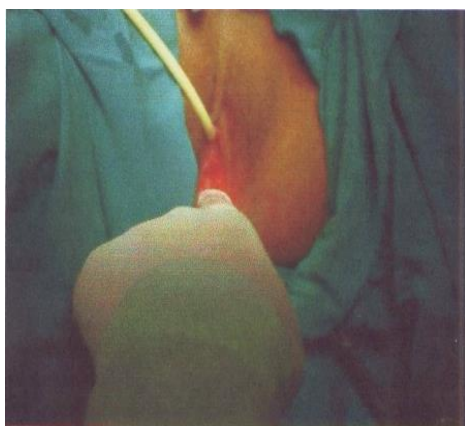
**Figure 1.** A regular unmodified Styrofoam mold



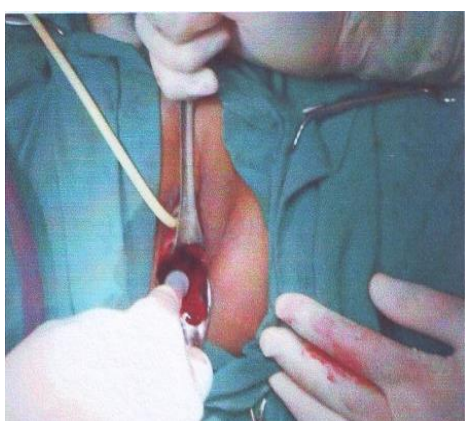
**Figure 2.** A fresh amniotic membrane, collected from an elective cesarean section patient.



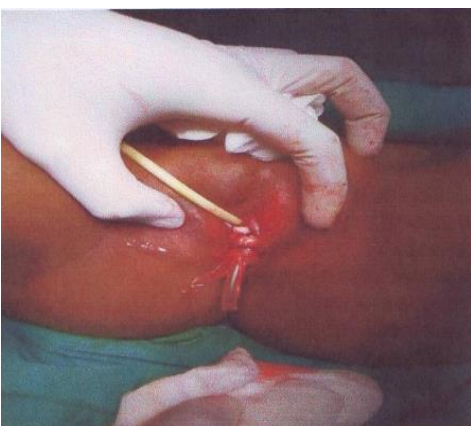
**Figure 3.** The mold was modified by coating it with the membranes



**Figure 4.** The appearance of the obstruction in the vagina wall



**Figure 5.** The flow of the menstrual blood after an incision in the area of obstruction



**Figure 6.** The modified mold, post-fitting.

## DISCUSSION

Handling a vaginal obstruction after a surgery is quite difficult because of the risk of recurrence is up to 15-20%.<sup>3</sup> The success of the treatment depends not only on the surgical technique, but also on the post operation maintenance. Many techniques, such as wound irrigation with physiological solution, dextran,

heparin, the use of drugs such as NSAIDs, and or the use of membranes, are used to prevent obstruction.<sup>9</sup>

Nazar *et al.* (2006), reported in a vaginal atresia case, an operation and an installation of a vaginal mold coated with membranes were carried out. In the 4-month follow-up, there was no obstruction found. An amniotic membrane was used because it does not express any histocompatibility antigen. Moreover, there is no evidence of immune rejection when the amniotic membrane implantation was performed. An amniotic membrane graft is an excellent method for the vaginal surgery. The membrane also produces lysozyme which bactericidal.

When the membrane is applied to the vaginal tissue, the membrane will stick firmly. Thus, protecting the underlying tissue granulation and facilitating an epithelialization. A human amniotic membrane was able to advance to a full metaplasia into a squamous epithelium, but the mechanism of the cellular transformation is unknown. The use of the membrane that lines the vaginal mold eliminates the need for skin grafting. The amniotic membrane can be obtained aseptically from a woman who underwent an elective cesarean section operation simultaneously or it can be stored in a physiological fluid at 40°C for 48 to 72 hours. A membrane should not be used if it is stained with meconium, or when a chorioamnionitis or a premature rupture of membranes is present. Ideally, a serum from all of the amniotic donors must be tested for hepatitis B, hepatitis C, HIV, syphilis and toxoplasmosis.<sup>8</sup> The use of the amniotic membrane in supporting a wound healing showed a good success rate, at around 83.3%. The use of the membrane in the vagina operation is very easy, practical, and is the choice for experts of gynecology and other surgeons.

## CONCLUSION

A case of obstruction was reported after an excision of a recurrent vaginal transverse vaginal septum in a 15-year-old woman, using a mold modification coated with membranes. In the 4 months monitoring, a very satisfying result was achieved: the patient had a normal menstruation without complaint, and there was neither narrowing nor obstruction of the vagina. This case adds to the reason that it is necessary to have a new innovation in accordance with the local condition and situation to suppress the recurrence of vaginal obstruction.

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