Surprised Pregnancy in First Ovulation After Laparoscopic Tubal Reanastomosis: Case Report

Laparoskopik Tubal Reanastomoz Sonrası İlk Ovulasyonla Oluşan Sürpriz Gebelik

Alper BİLER,[a]
İsmet HORTU,[b]
Ali AKDEMİR,[c]
Fatih ŞENDAĞ[d]

[a]Clinic of Obstetrics and Gynecology, Ege Umut Hospital, Manisa
[b]Clinic of Obstetrics and Gynecology, Buca Maternity and Children Hospital,
[c]Department of Obstetrics and Gynecology, Ege University Faculty of Medicine, İzmir
[d]Clinic of Obstetrics and Gynecology, Acibadem University Faculty of Medicine, Atakent Hospital, İstanbul

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Yazışma Adresi/*Correspondence:*
İsmet HORTU
Buca Maternity and Children Hospital, Clinic of Obstetrics and Gynecology, İzmir, TÜRKİYE/TURKEY
ismethortu@yahoo.com

ABSTRACT Sterilization is a method that is aimed definitively to remove the possibility of natural procreation, and consists either of a ligature associated with section and resection of a part of the Fallopian tube. When these couples experience the death of children or if they divorce or remarry following death of husband, they may wish to be able to have another child. The availability of microsurgical recanalization (tubal reanastomosis) procedures would bring hope to those in need of these services and would improve the confidence of clients who are acceptors of voluntary sterilization. Every patient can be pregnant in any time after surgery (tubal reanastomosis) planned or unplanned. In this case report we present a surprisingly early detected pregnancy whose in her first ovulation after laparoscopic tubal reanastomosis.

Key Words: Sterilization reversal; laparoscopy

ÖZET Sterilizasyon; doğal yollarla üreme olasılığını ortadan kaldırmak amacıyla Fallop tüpünü bağlama veya bir kısmını çıkarma işlemidir. Sterilizasyon işlemi yaptırmış olan çiftler, çocuklarının ölümü, eşlerinin ölümü veya boşanma/yeniden evlenme gibi çeşitli nedenlerle tekrar çocuk sahibi olmak isteyebilirler. Mikrocerrahi gibi tubal rekanalizasyon işleminin varlığı, tüplerini tekrar açtırmak etmek isteyen çiftler için umut olup, gönüllü sterilizasyon yaptırmak isteyenleri de teşvik edecektir. Tubal reanastomoz sonrası, her hasta planlı veya plansız bir şekilde herhangi bir zamanda gebe kalabilmektedir. Bu olgu raporunda laparoskopik tubal reanastomoz sonrası ilk ovulasyonla erken dönemde sürpriz bir şekilde gebelik elde eden hastayı sunduk.

Anahtar Kelimeler: Kısırlaştırma düzeltimi; laparoskopi

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Although miscellaneous contraceptive options are available to provide reversible contraception, either in developed or developing countries tubal sterilization is one of the most common method used by married women.[1] Most women who choose voluntary tubal sterilization as a permanent contraceptive method, will remain happy with their choice. However, owing to different reasons, such as a change of spouse, loss of children and loss of spouse, between 2 and 10% of patients who have had tubal sterilization will motivate new pregnancies by using tubal reanastomosis procedure.[2] Either surgical approach or In Vitro Fertilization-Embryo Transfer (IVF-ET) can be offered as alternative treatment to these

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patients. Tubal reanastomosis involves microsurgery to repair the Fallopian tube after a tubal ligation procedure. The conventional treatment has been the microsurgical tubal anastomosis through the laparotomy, with pregnancy rates ranging from 70 to 80%.[3] With minimally invasive surgery as called laparoscopic (endoscopic) surgery, has developed in recent years in medicine through industrial improvements. By the way this surgery offering many advantages such as faster recovery, shorter hospital stay and quicker return to daily activities has provided to used new approaches for tubal reanastomosis. However, the rates of success and pregnancy rates of initial times of these minimally invasive surgery were inferior to those obtained by microsurgery through laparotomy.[4] The latest advances of minilaparoscopic (3 mm) instruments, including needle-holder and microbipolar, multidimensional cameras and high-resolution monitors along with skilled surgeons in advanced laparoscopy techniques allowed the performance of such a delicate laparoscopic procedure with results similar to laparotomy.[5]

CASE REPORT

A twenty-six year old woman gravida 2, parity 2, with regular menstrual cycles and wishing to conceive, was applied to our unit. Six years previously she has had a bilateral tubal ligation during second cesarean section by her gynaecologist. She has wished to conceive due to change of her spouse. The patient's medical history revealing about her infertility reason wasn't due to any other factor.

At the time of laparoscopy, both the isthmic-ampullary region of Fallopian tubes were found to be ligated (Figure 1, 2). Firstly, the blind ends of the proximal and distal stumps of left Fallopian tube were cut with micro-scissors and fashioned until healthy tubal mucosa was visualized (Figure 3). Chromopertubation revealed patency of both segments which had 4 and 5 mm luminal diameters respectively. Then from the distal end to the proximal end of Fallopian tube was placed a feeding tube (catheter) because of facilitate tubal reanastomosis (Figure 4). Using the Koh Ultramicro®

FIGURE 1: Ligated right fallopian tube; beginning of operation.

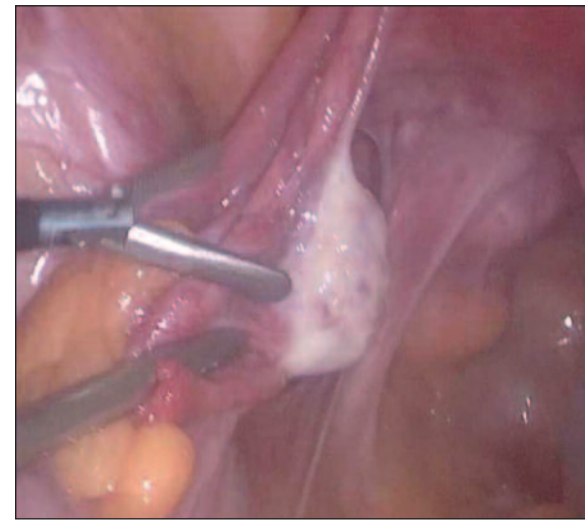

FIGURE 2: Ligated left fallopian tube; beginning of operation.

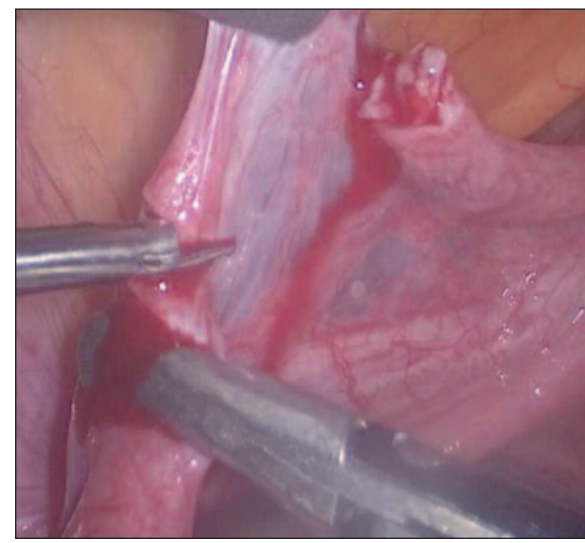

FIGURE 3: Cutting blind ends of left fallopian tube with micro-scissors.

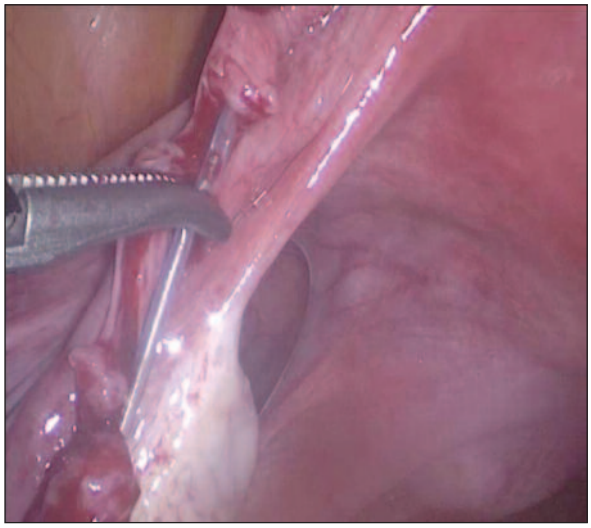

FIGURE 4: Insertion of feeding catheter to left fallopian tube.

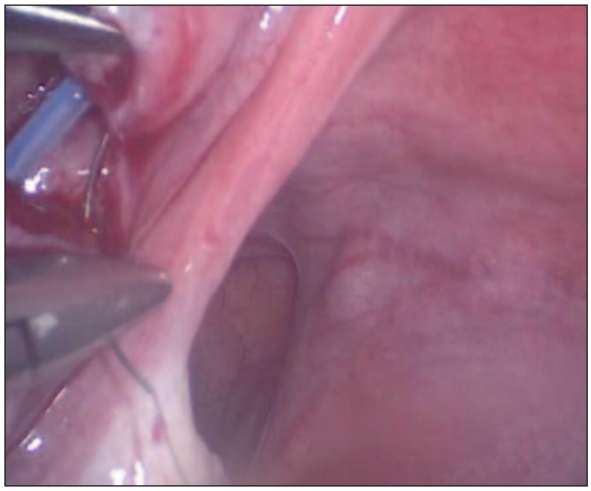

FIGURE 5: Suturing 6 o'clock of Fallopian tube with 6/0 PDS.

instrumentation (Karl Stortz Endoscopy® America, Culver City, USA) one 6/0 PDS suture were inserted into the tubal mesentery followed by four 6/0 PDS sutures inserted through the muscularis (and mucosa) of the tubal ends at 6, 12, 9 and 3 o'clock respectively (Figure 5). Three further 6/0 sutures were placed through the serosa and all sutures were tied intracorporeally completing an isthmic-ampullary anastomosis (Figure 6). Then, feeding tube was removed. At the end of the surgery methylene blue emerged from the distal end of the left Fallopian tube (Figure 7). Post-operative tubal length was 8 cm. Same procedure was also applied to right Fallopian tube. At the end of the surgery methylene blue emerged from the distal end of the right Fallopian tube (Figure 8). Post-operative tubal length was 7 cm. The patient was discharged first day after the surgery. There was not revealed any complication about this period.

Six weeks after the surgery the patient applied to our unit to examination. Her gynecological examination was unremarkable. By transvaginal ultrasound imaging, a gestational sac with 5-6 weeks was found in uterine cavity (Figure 9). Whereupon, while her past six week history were examining, she expressed that her menses started in first day

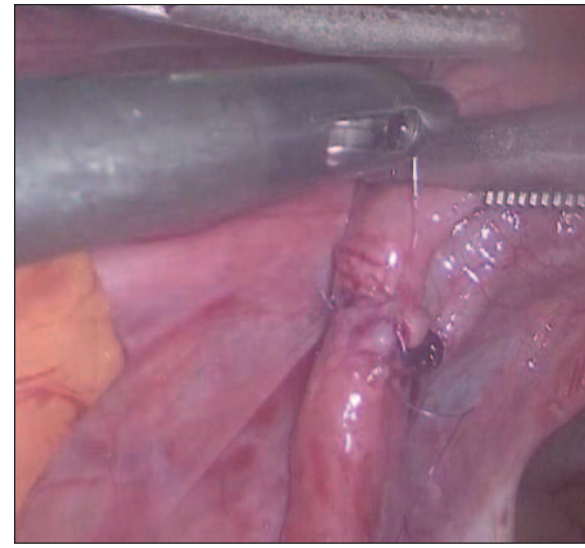

FIGURE 6: Isthmico-ampullary anastomosis completed by last suturing.

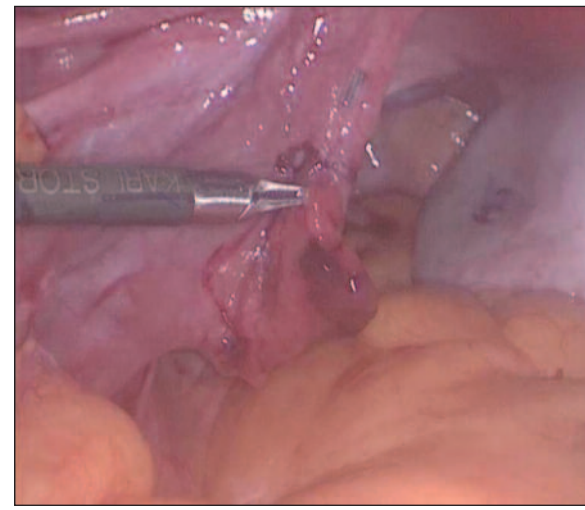

FIGURE 7: Methylene blue emerging from left Fallopian tube.

FIGURE 8: Methylene blue emerging from right Fallopian tube.

FIGURE 9: 5-6 week gestational sac in sonography.

after the surgery and she has regular menses once a month. These findings showed us that the patient conceived first menstrual period (First Ovulation) after surgery.

Informed consent was obtained from patient.

DISCUSSION

Tubal sterilization is a contraceptive method which is widely used in worldwide. Most women who choose voluntary tubal sterilization as a permanent contraceptive method will remain happy with their choice, but post sterilization regret occurs in a small group of women in some circumstances. Koh, reported that microsurgical laparoscopic technique for tubal anastomosis obtained a pregnancy rate of 71% (22/31 patients) in 12 months of follow up.[5] Laparoscopic tubal reanastomosis was first described by Sedbon et al. in 1989.[6] In the another study by Kaloo and Cooper, after laparoscopic tubal reanastomosis following tubal sterilization, the cumulative pregnancy rates reported 85% at one year.[7]

The classical treatment has been the microsurgical tubal anastomosis through the laparotomy route, with pregnancy rates ranging from 70 to 80%. We performed minilaparoscopic instruments to our case. Although the laparoscopic approach seemed to be more attractive because of mainly in terms of postoperative pain, shorter hospital stay, better cosmetic results and recovery. In literature, initial reports of the technique regarding to pregnancy rates was 25-36%.[7] But, the advent of 3 mm laparoscopic instruments, including needle-holder and microbipolar, use of new technologies in the form of enhanced camera resolution and with skilled surgeons in advanced laparoscopy techniques were obtained results similar to laparotomy.[8] There were different factors which affected the success of recanalization procedure, but we did not determine a literature search reveal any prospective randomised trials. Age is one of the most important factor that effects pregnancy rates after microsurgery. In the study by Jain et al, if microsurgery is carried out before the age of 25 the pregnancy rate was higher 75%. In addition to this study, the pregnancy rate was 83.33 % with 8-10 cm post surgical tube and 9.09 % with less than 4 cm tube remaining after surgery.[9] In the another study by Hanafi, pregnancy rate was found 85% when the age of the patient was 35 years or less, compared with just 45% after 35. Duration between tubal sterilization and recanalization and site of anastomosis can influence the results. Hanafi demonstrated that pregnancy rate was 87% if duration between tubal sterilization and recanalization had been less than 8 years, compared with 65% if it had been over 8 years.[10] Our case was 26

years old. Another one important factor that affect the success in pregnancy is the length of the remained tube after recanalization. The length of damaged tube varies widely depending on the sterilization technique used: for instance this length is 2-3 cm if bipolar coagulation or section and ligature are used, over 4 cm if monopolar coagulation, 2 cm for rings and less than 1 cm for clips.[11] Our case wasn't data regarding to previously carried out tubal ligation technique, but the length of the tube after recanalization was 8 cm for left Fallopian tube and also 7 cm for right Fallopian tube. For some authors, length of remaining tube after tubal reanastomosis must be at least 7 or 8 cm to succeed the best results.

Besides Gomel, in his study, adverted that the length of the tube was not only important for achievement of the surgery but it also affected the time interval between the surgery and the pregnancy. According to this condition who had less than 4 cm tube remaining after surgery took significantly longer time to conceive. 19.1 months when compared to 10.2 months in women with tubal length more than 4 cm after surgery. Like these case reports, our patient's recanalized tubes are might be improved her pregnancy timing interval between surgery. Also we had been reported that she hasn't got any factor for about avoiding pregnancy except bilateral tubal ligation. Male factor, ovulation dysfunctions, other systemical or anatomical disorders were ruled out. Some studies have showed that isthmus to isthmus anastomosis has the more chances for conception.[11] Kim et al, reported similar pregnancy rates in their studies (between 80 and 90%) for all anastomosis sites: isthmic-isthmic, isthmic-ampullary, cornual- isthmic or cornuo-ampullary. Our patient's anastomosis site was isthmic-ampullary. On the other hand, for other some authors, previously carried out tubal ligation technique, duration between tubal sterilization and recanalization, the anastomosis site and the length of tube remaining after tubal anastomosis are factors that do not have a negative influence on results.[12]

In the literature, the cumulative pregnancy rate in pregnancy rates after surgery were evaluated and given a 1-year follow-up period than at the end. Likewise there is no consensus on the safe interval period between surgery and a subsequent pregnancy. Templeman et al. reported that two case reports in whom 2 months later postoperatively conceived after tubal reanastomosis.[13] To the best of our knowledge, these two cases are the earliest pregnant after surgery, which had been published in the literature. However our case was compatible with the 5-6 week pregnancy after 6 weeks surgery. This evidence was showed us her pregnancy had occurred between 9-15th days after operation. Consequently it was thought us that, this pregnancy was the first ovulation conceptus. Also she's pregnancy still following-up in our unit. Laparoscopic tubal reanastomosis, can be provide a choice to some patients who have fertility desire after tubal ligation and can not detect any reason to explain infertility. Patient selection, delicate surgical technique, skilled surgeon and adequate equipment are play a key role in this cases. Finally in the literature, there is no knowledge about interval period between tubal reanastomosis and a subsequent pregnancy, every patient can be pregnant in any time after surgery planned or unplanned, so that this situation should be kept in mind.

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