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Original Research Paper

Preservation of Tube After Tubal Ectopic Pregnancy

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ABSTRACT:
Objective: In order to demonstrate our expertise with laparoscopic tube-preserving surgery, which was performed for the purpose of determining whether or not an ectopic tubal pregnancy is feasible and effective. **Methods:** The success rates of the treatments and the rates of homolateral patency were used as the outcome measures. individuals who have ectopic tubal pregnancies and are having laparoscopic tube conserving surgeries done to them. These treatments include segmental resection and reanastomosis, salpingotomy, salpingostomy, and fimbrial milking. **Results:** A total of 57 consecutive Outcomes were analyzed in this prospective research. Among the 57 surgical operations, 55 (96.4%) were successfully completed without any extra intervention. The number of patients who had salpingotomy, salpingostomy, segmental resection and reanastomosis, and fimbrial milking was 24 (42.1%), 25 (43.9%), 4 (7. %), and 2 (3.5%), respectively. **Conclusion:** When it comes to treating tubal ectopic pregnancies, tubal-conserving surgery is a realistic and safe therapy option. Nevertheless, due to the fact that effective therapy is not the primary objective of tube resection surgeries, extreme care has to be taken when interpreting the findings of this research.

Keywords: Ectopic pregnancy; Salpingostomy; Pregnancy.

INTRODUCTION:

Ectopic pregnancies are responsible for up to 5% of all maternal fatalities in high-resource nations [1,2], and they occur in anywhere from 0.6% to 2.1% of all pregnancies [1]. Moreover, it is the main cause of mortality among pregnant women during the first trimester [1,36]. Tubal milking, tubal ligation, tubal ablation, tubal ligation and fallopian tube reattachment, and tubal ligation all come under the category of the tried-and-true procedure known as laparoscopic ablation. widely known for patients with ectopic pregnancies who want to retain their fertility [2, 4, 69]. According to the findings of a recent survey that surveyed patients on their preferred surgical method (tubal removal versus mastectomy). Continue with the procedure in spite of the surviving trophoblasts' danger and the possibility of a second ectopic pregnancy occurring during the caesarean section [5]. Unfortunately, tubal-preservation laparoscopic surgery has not been performed on a large scale. As a result, it is essential to do research on these treatments in order to provide women who are experiencing tubal pregnancies with further information. The purpose of this research was to report on our previous experience with tubal-conserving laparoscopic surgery and to assess both its practicability and its efficacy.

MATERIAL AND METHODS:

The Institutional Review Board approved this prospective study at ALALWIA Hospital from February 2021 to May 2021 and ALBISHARA Hospital from February 2022 to May 2022. We recruited laparoscopically operated tubal ectopic pregnancy patients for the experiment. Transvaginal ultrasonography, beta hCG, and physical examination may detect tubal pregnancy without an endoscope [3]. After explaining the hazards of tube removal surgery, such as remaining trophoblasts and ectopic pregnancy, all patients gave their informed consent. surgical tube rotations. An ectopic tubal mass visible on a transvaginal ultrasound; a desire to maintain optimal fallopian tube protection for future fertility; an age of 18 or older; a medical condition suitable for laparoscopic surgery (the American Society of Anesthesiologists classifies Physical Condition 1 or 2); and consent to surgical treatment and monitoring were the inclusion criteria. Exclusion criteria included not wanting to become pregnant, having an interstitial pregnancy or teratogen, becoming pregnant through in vitro fertilization, carrying the pregnancy in a single tube, having bilateral tubal occlusion or hydrosalpinx,

having these conditions previously noted during computed tomography or laparoscopy, or discovering them during surgery to remove an ectopic pregnancy.

Salpingostomy Resection:

During a mastectomy, a tube delivers 2.5 units of vasopressin (Hanlim Pharm, Seoul, Korea) in 1 milliliter of saline. Insert spinal needle number 23 gauze around the injured tube to stop bleeding. After stabilizing the tube with atraumatic forceps, a linear incision removed the whole ectopic tumor. Thus the sufferer may recuperate. The fallopian tube is incised above its greatest diameter, where the ectopic pregnancy is. A sharp needle cuts this. Hydro dissection and traction with atraumatic forceps remove the ectopic lump. If necessary, unilateral suction and compression are applied at the incision to evacuate conception products. The conception product may be extracted from a ruptured fallopian tube without an incision. After birth, the placental bed will be examined. Hemostatic sealants are used to stop fallopian tube hemorrhage (as the patient watches under direct observation). After endoscopy, the bleeding sites were irrigated. Following tubal ligation, the tube was closed in one layer using two or three interrupted PDS sutures (Ethicon, Somerville, NJ, USA). Tubal ligations leave the fallopian tube lumen open, allowing the patient to recuperate.

Segmental Resection and Reanastomosis occurred. Segmentectomy and reanastomosis may be linked with unruptured ectopic pregnancies at the tubal isthmus, uncontrolled bleeding from the tubal graft site after salpingectomy, or excessive cauterization of the placental bed for hemostasis. An unruptured tubal isthmus ectopic pregnancy may need segmentectomy and reanastomosis. The procedure begins with a subserous injection of diluted vasopressin into the proximal, distal, and central fallopian tubes to aid hemostasis and dissection. Laparoscopic scissors cut cleanly and remove the ectopic tumor and tubing. Five PDS stitches approximate the middle fallopian tube. These sutures connect the fallopian tube ends and avoid stress at the anastomosis site. If the proximal and distal anastomotic sites differ in size, use a two-monofilament nylon intraluminal splint. This simplifies anastomosis suturing. Four interrupted 6 PDS sutures stitch the fallopian tube segment's mucosal and muscular layers. The initial stitch begins at the six o'clock position and is tied internally. Knot outside lumen. But, the second and third sutures at 3 and 9 o'clock are not knotted. Then, place the fourth stitch at twelve o'clock and link the three and nine o'clock stitches. Careful suturing helps keep the distal tubal segment aligned and rotated. Five PDS sutures join the serosa. Chromo pertubation, which assesses tubal patency, will decide the operation's initial success.

Ciliary Sac Milking:

When the conceptus was extremely near to the cilia terminal or cilia, the oviduct segment was grasped and slowly milked from the cilia. The conceptus was near the cilia terminal or cilia when this was done. The concept item was gently put into the extrusion using upward pressure. After a gradual and careful proximal tube movement, the product was delivered into the abdominal cavity. The surgical specimen was recovered using the laparoscopic specimen bag (LapBag, Sejong Medical, Paju, Korea). Following that, the contralateral fallopian tube was carefully examined for unsuspected tubal abnormalities (such as hydrosalpinx, severe pertubal adhesions, deformities, or other medical illnesses) and severely irrigated. 4. ml of saline for bloody urine. To avoid persistent trophoblasts, patients should receive an intramuscular injection of 5 mg/m2 methotrexate within 24 hours following surgery [11,13]. Patients who had recently taken methotrexate or had recovered from surgery were exempt from this suggestion. This injection was regularly given 24 hours following surgery. Salpingectomy with tube indwelling operation replaced salpingectomy. The patient was released on surgical day 2 or 3 and examined weekly for persisting trophoblasts until blood hCG levels dropped below 5 mIU/ml. hCG recovery time was from surgery to a serum hCG level of 5 mIU/mL. If postoperative blood -hCG concentrations rose or were high for a week, patients had persisting trophoblasts [14]. This criterion identified the condition. The woman was given a hysteron-salpingram three months after her beta-hCG level went below 5 mIU/ml so physicians could assess the tube's patency following surgery. A gynecological radiologist unaware of the patient's treatment checked the patient's tubes.

Target Parameter:

This study found that tube-sparing surgery can be done without salpingectomy. Secondary results of tube-sparing surgery were trophoblast persistence and reoperation. Hysterosalpingograms assessed tubal patency. IBM SPSS assisted in statistical analysis (Armonk, New York, USA). After analyzing the data's normal distribution, the mean standard deviation or median (range) of quantitative variables were shown. Frequency represented the qualitative variable (percentage).

RESULTS:

This prospective cohort research lasted for a total of four years and included the participation of 57 women who had previously had a tubal pregnancy. The participants were included in the study at predetermined intervals. The demographic features of the population that was the subject of the inquiry are shown in table 1. At the time of surgery, the patient's average age was 28.6 4.4 years (the age range was 19

to 38 years), and the patient's average body mass index was 21.5 2.8 kg/m2 (the age range was 16.8 to 27.3 kg/m2). There were a total of four patients who did not have any other children from a prior relationship. The preoperative levels of hCG in the blood varied from 542 to 61,7 IU/mL, with a value of 31.7 mIU/mL serving as the median. The results may be shown either as raw numbers (in the form of percentages) or as the mean together with the standard deviation (range). Human chorionic gonadotropin, which is sometimes referred to by its abbreviation, hCG. a) It is defined as the successful completion of planned tube-preserving surgery without the requirement of extra rescue treatment such as salpingectomy or methotrexate injection;
b) Defined as the difference between the preoperative hemoglobin level and the level at postoperative day 1; c) Calculated as the period from the date of the surgery to the date of achieving a serum hCG level of less than 5 mIU/mL; d) A tubal patency test utilizing hysterosalpingography was performed in only 15 patients three months after achieving a serum hCG level of less than 5 mIU/mL. 53.2±8.5 days (range, 38 to 68 days) (range, 38 to 68 days). A yolk sac was identified in 19 (33.3%) of patients during preoperative transvaginal sonography. A fetal echo was recorded in 14 (24.6%) of patients, and embryonic cardiac motion was observed in 1 (17.5%) of patients. The primary reasons for surgery included a serum level of beta-hCG that was greater than 15, mIU/mL in 7 patients (12.3%), the detection of positive embryonic cardiac motion in 1 patient (17.5%), the suspicion of massive hemoperitoneum in 15 patients (26.3%), the failure of systemic methotrexate treatment in 2 patients (35.1%), and the refusal of medical therapy in 5 patients (8.8%). All of these reasons were present in 7 patients. From our patient population, there are a total of 7 ectopic pregnancies that resulted in a miscarriage (12.2%), and there are a total of 5 ectopic pregnancies that did not result in a miscarriage (87.8%). There was a tubal pregnancy present in nine of the five cases that did not result in a rupture. In these instances, the tubal pregnancy had a complete and undamaged tubal surface, but the fimbrial orifice was the source of heavy and consistent bleeding. Table 2 provides extensive information on the results of the procedure. Out of a total of 57 patients that took part in the study, this is the number of people who had salpingotomies performed on them. The data are shown with the mean together with a standard deviation range, the median along with a range, or the number along with a %. Alternatively, the data may be presented with the range of the number combined with the percentage. human chorionic gonadotropin, sometimes known as hCG after its abbreviation. a) In order to assess whether or not the lady was pregnant, the amount of time that had passed since the woman had her most recent period before the planned procedure was examined. b) Potentially severe hemoperitoneum detected on transvaginal ultrasonography; c) Nine out of every five cases displayed tubal leakage, which implies an unruptured tubal pregnancy with bleeding from the fallopian tube; d) The majority of patients had a history of ectopic pregnancies. The patient had a history of ectopic pregnancy, for which they had methotrexate administration throughout their body. It was determined that 5.3% of the patient's pregnancies were ectopic. Antibiotics were given to three people (5.3% of the total), all of whom had a history of an inflammatory illness that affected the pelvic organs in the past. The number of days of gestation, on average, was Statistics are presented as either a percentage (%) or a mean and standard deviation. The range for this value was from 542 to 61,7 mIU/mL, with the median preoperative serum hCG level coming in at 31,7 mIU/mL and the range for this value being from 542 to 61,7 mIU/mL. (range).

Human chorionic gonadotropin, also known by its abbreviation hCG in certain instances. a) Defined as the successful completion of planned tube preservation surgery without the need for further rescue therapy such as salpingectomy or methotrexate injection; b)
b) Defined as the difference in hemoglobin levels between the preoperative level and the level at the time of the surgery. This difference is calculated by subtracting the preoperative level from the current level.
postoperative day 1; c)calculated as the period from the date of the surgery to the date of achieving a serum hCG level of less than 5 mIU/mL; d)A tubal patency test using hysterosalpin gography was performed in only 15 patients three months after achieving a serum hCG level of less than 5 mIU/mL. e)The success rate of the procedure was 100%. 53.2±8.5 days (range, 38 to 68 days) (range, 38 to 68 days). A yolk sac was identified in 19 (33.3%) of patients during preoperative transvaginal sonography. A fetal echo was recorded in 14 (24.6%) of patients, and embryonic cardiac motion was observed in 1 (17.5%) of patients. The primary reasons for surgery included a serum level of beta-hCG that was greater than 15, mIU/mL in 7 patients (12.3%), the detection of positive embryonic cardiac motion in 1 patient (17.5%), the suspicion of massive hemoperitoneum in 15 patients (26.3%), the failure of systemic methotrexate treatment in 2 patients (35.1%), and the refusal of medical therapy in 5 patients (8.8%). All of these reasons were present in 7 patients. From our patient population, there are a total of 7 ectopic pregnancies that resulted in a miscarriage (12.2%), and there are a total of 5 ectopic pregnancies that did not result in a miscarriage (87.8%). In nine out of the five unruptured instances, there was a tubal pregnancy that leaked. In these 9 instances, the tubal pregnancy had a surface that was intact and unruptured and there was vigorous bleeding coming from the

fimbrial orifice. It is known as a tubal pregnancy with a leaky tubal pregnancy to describe this condition. Table 2 provides extensive information on the results of the procedure. The number of patients who underwent salpingot level and the level at postoperative day 1; c) Calculated as the period from the date of the surgery to the date of achieving a serum hCG of less than 5 mIU/mL; d)A tubal patency test using hysterosalpingeography was performed in only one patient. There were a total of 57 patients who participated in the study.

Three months after their blood levels of beta-hCG were lowered to less than 5 mIU/mL, 15 people were investigated as part of this research. 53.2±8.5 days (range, 38 to 68 days) (range, 38 to 68 days). In 19 (33.3%), 14 (24.6%), and 1 (1.1%) of the pregnancies, respectively, preoperative transvaginal sonography revealed the presence of a yolk sac, fetal echo, and embryonic cardiac motion.

17 patients out of 100 were considered for this study. The primary reasons for surgery included a serum level of beta-hCG that was greater than 15, mIU/mL in 7 patients (12.3%), the detection of positive embryonic cardiac motion in 1 patient (17.5%), the suspicion of massive hemoperitoneum in 15 patients (26.3%), the failure of systemic methotrexate treatment in 2 patients (35.1%), and the refusal of medical therapy in 5 patients (8.8%). All of these reasons were present in 7 patients. From our patient population, there are a total of 7 ectopic pregnancies that resulted in a miscarriage (12.2%), and there are a total of 5 ectopic pregnancies that did not result in a miscarriage (87.8%).

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The information about the data may be shown using the mean together with the standard deviation (range), the median (range), or just the number (percent). human chorionic gonadotropin, sometimes known as hCG after its abbreviation. a) In order to assess whether or not the lady was pregnant, the amount of time that had passed since the woman had her most recent period before the planned procedure was examined. b) Potentially severe hemoperitoneum detected on transvaginal ultrasonography; c) Nine out of every five cases displayed tubal leakage, which implies an unruptured tubal pregnancy with bleeding from the fallopian tube; d) The majority of patients had a history of ectopic pregnancies. The patient had a history of ectopic pregnancy, for which they had methotrexate administration throughout their body. It was determined that 5.3% of the patient's pregnancies were ectopic. Antibiotics were given to three people (5.3% of the total), all of whom had a history of an inflammatory illness that affected the pelvic organs in the past. The number of days of gestation, on average, was Statistics are presented as either a percentage (%) or a mean and standard deviation. The range for this value was from 542 to 61,7 mIU/mL, with the median preoperative serum hCG level coming in at 31,7 mIU/mL and the range for this value being from 542 to 61,7 mIU/mL. (range). Human chorionic gonadotropin, also known by its abbreviation hCG in certain instances. a) Defined as the completion of intended tube preserving surgery without additional rescue therapy such as salpingectomy or methotrexate injection; b) Defined as the difference between the preoperative salpingostomy, segmental resection and reanastomosis, and fimbrial milking, which were 24 (42.1%), 25 (43.9%), 4 (7.%), and 2 (3.5%), respectively. In two patients, or 3.5% of the total, laparoscopic salpingostomy was at first attempted. However, this procedure had to be changed to laparoscopic salpingectomy because significant bipolar coagulation was required to achieve hemostasis at the tubal bleeding site, and the damaged tube needed to be removed. After surgery, an intramuscular injection of 5 mg/m2 was administered to 38 of the 57 patients who participated in the trial. The other 19 patients, representing 33.3% of the total, who received methotrexate medication less than a week before surgery or who opted for salpingectomy did not get any methotrexate as a preventative measure. The average length of time needed for surgery was 52.4 minutes, with a standard variation of 15.5 minutes (range: 33-15 minutes), while the average length of time needed for hCG resolution was 18.3 days, with a standard variance of 5.9 days (range, 1-29 days). The patients did not have any postoperative problems, and they did not have any trophoblasts that persisted after the procedure. As a result, the therapy for the

preservation of the fallopian tubes had a success rate of 96.4% of the time (55 out of 57). Just 15 of the 55 patients who had successful tubal-conserving surgery were examined for patency of the fallopian tubes using hysterosalpingography three months after obtaining serum hCG levels of less than 5 mIU/ml. This was done utilizing the hysterosalpingography technique. This was done to make certain that the fallopian tubes were in good working order during the process. As compared to the ipsilateral fallopian tube, the patency rate of the contralateral fallopian tube was only 8%, while the ipsilateral fallopian tube patency rate was 75%. (11 of 15). (12 of 15). level and the level at postoperative day 1; c) Calculated as the period from the date of the surgery to the date of achieving a serum hCG level of less than 5 mIU/mL; d)A tubal patency test utilizing hysterosalpingography was performed in only 15 patients three months after achieving a serum hCG level of less than 5 mIU/mL. level and the level at postoperative day 1. 53.2±8.5 days (range, 38 to 68 days) (range, 38 to 68 days). A yolk sac was identified in 19 (33.3%) of patients during preoperative transvaginal sonography. A fetal echo was recorded in 14 (24.6%) of patients, and embryonic cardiac motion was observed in 1 (17.5%) of patients. The primary reasons for surgery included a serum level of beta-hCG that was greater than 15, mIU/mL in 7 patients (12.3%), the detection of positive embryonic cardiac motion in 1 patient (17.5%), the suspicion of massive hemoperitoneum in 15 patients (26.3%), the failure of systemic methotrexate treatment in 2 patients (35.1%), and the refusal of medical therapy in 5 patients (8.8%). All of these reasons were present in 7 patients. From our patient population, there are a total of 7 ectopic pregnancies that resulted in a miscarriage (12.2%), and there are a total of 5 ectopic pregnancies that did not result in a miscarriage (87.8%). The situations described below were some of the five in which there was no rupture:

9 were associated with pregnancies that had tubal leakage, which may be identified by the presence of intact fallopian tube surfaces as well as active bleeding from the fibrous cavity. Table 2 provides an in-depth look at the results of the operation, which can be seen in its entirety over here. number of patients who had salpingoplasty procedures out of a total of 57 people who were examined for the procedure.

However, the hemostatic sealant has the potential to have a negative impact on gametogenesis. Additionally, the formation of postoperative adhesions has the potential to have an effect on the patient's future reproductive potential. Both of these factors have the potential to have an effect on the patient. It has been said that the operation known as segmental resection and reanastomosis is the most effective method for treating isthmic tubal pregnancy [4,9]. This is because ectopic pregnancies that are positioned inside the isthmic section of the fallopian tube quickly overflow the muscularis layer. This is the reason why this occurs. If these types of ectopic pregnancies are treated by salpingotomy, there is an increased possibility of chorionic villi persisting after the procedure. This would result in a persistent ectopic pregnancy, which would require additional rescue treatment. salpingotomy is a procedure that removes the fallopian tubes. Nevertheless, segmental tubal resection with reanastomosis is a time consuming process requiring special expertise and extensive microsurgical experience The following techniques have been used to achieve hemostasis: direct compression of the bleeding bed, microbipolar cautery at the bleeding point, suture ligature of the mesosalpinx, application of hemostatic sealant on the bleeding bed, and segmental resection of the affected tube with reanastomosis. The procedure of direct compression by itself is simple, but the results are nearly never satisfactory on their own. Microbipolar cautery is one method that may be used to stop bleeding from the placental bed; however, if it is used, there is a risk of causing thermal injury to the myosalpinx, which might result in permanent damage. While suture ligation at the mesosalpinx is an effective method for halting bleeding, this procedure carries with it the risk of causing damage to the vasculature of the tubules that are in the surrounding area. It is feasible to do tube-preserving surgery in a way that is both successful and uncomplicated by attaining hemostasis with the use of a hemostatics sealant. This makes it possible to perform the procedure in a manner that preserves the tubes. It is not difficult to get rid of a pregnancy that has been distally implanted in the tube by "milking" or "expressing" it via the fimbrial end. It is likely that it should only be used for ectopic pregnancies that are located at or very near to the fimbria itself [6,8]. This method has been associated with complications such as the retention of trophoblastic tissue and postoperative bleeding among other issues. After surgery to preserve the tubes, this series did not contain any cases with persistent trophoblast (of 55). After conservative tubal surgery (either salpingotomy or salpingostomy), residual trophoblast may often develop in between 4 and 2 percent of patients [3]. This is the situation in the majority of instances. The use of preventative methotrexate resulted in a decrease in the rate of persistent trophoblast from 14% to 2%, as stated by the conclusions of a study that was carried out by Graczykowski and Mishell [13]. This research was carried out by Graczykowski and Mishell.

DISCUSSION:

In this prospective cohort study, we found that tube preserving surgery for ectopic tubal pregnancy was not only extremely possible (with a success rate of 96.4%), but it was also safe (with a complication rate of %). This was one of the main takeaways from our

investigation. In addition, it was found that the rate of tubal patency in the homo lateral position was 75%, whereas the rate of tubal patency in the contralateral position was reported to be 8%. To the best of our knowledge, this is the largest study project that has ever been carried out in Korea to examine the feasibility of doing tube-preserving surgery. It is of the utmost importance to control bleeding at the implantation site in order to preserve the fallopian tube after the products of conception have been removed from the fallopian tube during tube-preserving surgery for ectopic tubal pregnancy. This surgery is performed in order to preserve the fallopian tube. Salpingectomy should be performed in place of tube-preserving treatments such as salpingotomy, salpingostomy, or fimbrial milking if the bleeding does not cease despite the best efforts of the surgeon. In order to achieve hemostasis, a variety of techniques have been utilized, including direct compression of the bleeding bed, microbipolar cautery at the bleeding point, suture ligature of the mesosalpinx, application of hemostatic sealant on the bleeding bed, and segmental resection of the affected tube followed by reanastomosis. The procedure of direct compression by itself is simple, but the results are nearly never satisfactory on their own. Microbipolar cautery is one method that may be used to stop bleeding from the placental bed; however, if it is used, there is a risk of causing thermal injury to the myosalpinx, which might result in permanent damage. While suture ligation at the mesosalpinx is an effective method for halting bleeding, this procedure carries with it the risk of causing damage to the vasculature of the tubules that are in the surrounding area. It is feasible to do tube-preserving surgery in a way that is both successful and uncomplicated by attaining hemostasis with the use of a hemostatics sealant. This makes it possible to perform the procedure in a manner that preserves the tubes. However, the hemostatic sealant has the potential to have a negative impact on gametogenesis as well as the creation of postoperative adhesions, both of which may have an effect on the patient's future reproductive capacity. Both of these factors may have an effect on the patient's ability to have children. It has been said that the operation known as segmental resection and reanastomosis is the most effective method for treating isthmic tubal pregnancy [4,9]. This is because ectopic pregnancies that are positioned inside the isthmic section of the fallopian tube quickly overflow the muscularis layer. This is the reason why this occurs. If these types of ectopic pregnancies are treated by salpingotomy, there is an increased possibility of chorionic villi persisting after the procedure. This would result in a persistent ectopic pregnancy, which would require additional rescue treatment. salpingotomy is a procedure that removes the fallopian tubes. On the other hand, segmental tubal resection with reanastomosis is a method that requires specific expertise in addition to vast microsurgical experience. This is because it takes a large amount of time to complete the procedure. It is not difficult to get rid of a pregnancy that has been distally implanted in the tube by "milking" or "expressing" it via the fimbrial end. It is likely that it should only be used for ectopic pregnancies that are located at or very near to the fimbria itself [6,8]. This method has been associated with complications such as the retention of trophoblastic tissue and postoperative bleeding among other issues. After surgery to preserve the tubes, this series did not contain any cases with persistent trophoblast (of 55). After conservative tubal surgery (either salpingotomy or salpingostomy), residual trophoblast may develop in between 4 and 2 percent of patients [3,16]. This is the situation in the majority of instances. The use of preventative methotrexate resulted in a decrease in the rate of persistent trophoblast from 14% to 2%, as stated by the conclusions of a study that was carried out by Graczykowski and Mishell [14-41]. This research was carried out by Graczykowski and Mishell. As shown by a recent meta-analysis of ectopic pregnancies [7], a single prophylactic administration of methotrexate intramuscularly immediately after surgery significantly reduced the risk of persistent trophoblast following laparoscopic salpingo-oophorectomy [relative risk:.89; 95% confidence interval [CI]:.82-.98]. We believe that the preventative administration of methotrexate in women undergoing organ-sparing surgery enhances the likelihood that damaged ducts will be saved. This is because taking methotrexate lowers the likelihood of suffering tubal damage or requiring tubal resection due to the presence of trophoblasts that have not been eliminated. Our study is subject to a few qualifications and limitations. Second, the study was conducted using a comparative design with a participant pool that was quite small. Second, there was no information on fertility to be found in any of the outcomes of this study. Further investigation is required in order to determine whether the potential advantages of tubal-conserving surgery, such as a better fertility prognosis compared to tubal resection, outweigh the potential drawbacks of the procedure, which include persistent trophoblast and an increased risk of recurrent ectopic pregnancy. Third, there was only one surgeon present for all of the operations, and that individual was in charge of everything. As a direct result of this, it is possible that our results will not be relevant to the practices of other surgeons. These factors could help explain why the results aren't as persuasive as they might be. This study comes to the conclusion that tubal-conserving surgery is a suitable treatment option for ectopic tubal pregnancy since it has a high rate of both feasibility (a success rate of 96.4%) and safety (a complication rate of%; see also). In terms of ipsilateral patency after tubal conservation, 75% of our results were comparable to those of other studies in 66% to 94%. This was the case for the majority of our

patients. The vast majority of our patients presented with this condition. Yet, more ongoing research is necessary to validate this result and develop recommendations for tubal-preserving surgery in patients who have an ectopic pregnancy in the tube. These patients have been shown to have a higher chance of a successful pregnancy.

Conflict of Interest: No potential conflicts of interest related to this article have been reported.

Table 1 characteristics of baseline (n=57)

Characteristics	Value
Age year	28.6±4.4(19-38)
Body mass index (kg/m^2)	21.53±2.8(16.8-27.3)
gravity	0(0-3)
parity	
nulliparous	53(93.0)
parous	4(7.0)
History of ectopic pregnancy	3(5.3)
History of pelvic inflammatory disease	3(5.3)
History of infertility	1(2.4)
Preoperative serum B-Cg(mlulml)	3.170(542-61700)
Duration of gestation (day)	53.2±5,5(38-68)
Indication for surgery	
Serum B-hCG level >15,00 mlu/ml	7(12.3)
Positive embryonic cardiac motion	10(17.5)
Massive hemoperitoneum	15(26.30
Failure of systemic methotrexate treatment	20(35.1)
Refusal of medical therapy	5(8.8)
Preoperative hemoglobin	10.7±2,3(6.9-13.2)
(mg/dL)	
Maximal diameter of ectopic mass(cm)	3.7±1.5(2.5-6.0)
Location of tubal pregnancy	
Isthmic portion	10(17.5)
Ampullary portion	45(78.9)
Fimbrial portion	2(3.5)
Status of tubal rupture	
ruptured	7(12.2)
unruptured	50(87.8)
Intraperitoneal hemorrhage (mL)	340(0-2,000)

Table no .2 Results of Surgical Operations

Outcomes	Value
Laparoscopic procedures	
Salpingotomy	24(42.1)
Segmental resection	25(43.9)
Segmental resection and reanastomosis	4(7.0)
Fimbrial milking	2(3.5)
Converted to	2(3.5)
salpingectomy	
Treatment success	55(96.4)
Operative time (min)	52.4±15.5(33-105)
Postoperative hemoglobin change (mg/ml)	1.8±1.1(0.1-4.4)
B-hcG resolution time (day)	18.3±5.9(10-29)
Postoperative complications	0
Persistent ectopic pregnancy	0
Tubal patency test (n=15)	
Treated tube patent	11(75)
Contralateral tube; patent	12(80)

REFERENCES:

1. Yao M, Tulandi T. Current status of surgical and nonsurgical management of ectopic pregnancy. Fertility and Sterility. 1997;67(3):421–33.
2. Mol F, Mol BW, Ankum WM, van der Veen F, Hajenius PJ. Current evidence on surgery, Systemic Methotrexate and expectant management in the treatment of tubal ectopic pregnancy: A systematic review and meta-analysis. Human Reproduction Update. 2008;14(4):309–19.
3. Alkatout I, Honemeyer U, Strauss A, Tinelli A, Malvasi A, Jonat W, et al. Clinical diagnosis and treatment of ectopic pregnancy. Obstetrical & Gynecological Survey. 2013;68(8):571–81.
4. DeCherney AH, Boyers SP. Isthmic ectopic pregnancy: Segmental resection as the treatment of choice. Fertility and Sterility. 1985;44(3):307–12.
5. van Mello NM, Mol F, Opmeer BC, de Bekker-Grob EW, Essink-Bot ML, Ankum WM, et al. Salpingotomy or salpingectomy in tubal ectopic pregnancy: What do women prefer? Reproductive BioMedicine Online. 2010;21(5):687–93.
6. Elmoghazy DAM, Nour-El-Dine NM. Prevention of persistent ecpopic pregnancy with single dose methotrexate after surgical conservation of the Tube. International Journal of Gynecology & Obstetrics. 2000;70.
7. Gracia CR, Brown HA, Barnhart KT. Prophylactic methotrexate after linear salpingostomy: A decision analysis. Fertility and Sterility. 2001;76(6):1191–5.
8. Graczykowski J. Methotrexate prophylaxis for persistent ectopic pregnancy after conservative treatment by salpingostomy. Obstetrics & Gynecology. 1997;89(1):118–22.
9. Hajenius PJ, Mol BWJ, Ankum WM, van der Veen F, Bossuyt PMM, Lammes FB. Pregnancy: Clearance curves of serum human chorionic gonadotrophin for the diagnosis of persistent trophoblast. Human Reproduction. 1995;10(3):683–7.
10. Song T, Kim MK, Kim M-L, Jung YW, Yoon BS, Seong SJ. Laparoscopic salpingotomy using the FLOSEAL hemostatic sealant in patients with tubal pregnancy. Journal of Laparoendoscopic & Advanced Surgical Techniques. 2014;24(9):651–5.
11. Hajenius PJ, Engelsbel S, Mol BWJ, van der Veen F, Ankum WM, Bossuyt PMM, et al. Randomised trial of systemic methotrexate versus laparoscopic salpingostomy in tubal pregnancy. The Lancet. 1997;350(9080):774–9.
12. Fujishita A. Laparoscopic salpingotomy for tubal pregnancy: Comparison of linear salpingotomy with and without suturing. Human Reproduction. 2004;19(5):1195–200.
13. Seifer DB, Diamond MP, DeCherney AH. Persistent ectopic pregnancy. Obstet Gynecol Clin North Am. 1991 Mar;18(1):153-9. PMID: 1923255.
14. Al-Ataar ZI. The prevalence and antimicrobial resistance of Pseudomonas species in patients with chronic suppurative otitis media. Al-Kindy College Medical Journal. 2015;11(1):49-52.
15. Al-Attar Z, Faulkner L, Farrell J, Whitaker P, Peckham D, Park K, et al. Characterization of the TCR V repertoire of piperacillin-specific T-cells. Clinical and Translational Allergy. 2014;4:1-.
16. Al-Attar Z, Hashim I, Nashtar SB. The role of nucleo-CMP as an adjuvant agent in the treatment of facial palsy. Int J Med Res Health Sci. 2018;7(3):161-7.
17. Al-Attar ZI. The prevalence and antimicrobial sensitivity of Esbl Escherichia Coli. in clinical isolates. Al-Kindy College Medical Journal. 2014;10(2):96-9.
18. Al-Attar ZI. Irritable bowel syndrome: the most common presentation, severity ranking and therapeutic regimens among patients attending outpatient. AL-Kindy College Medical Journal. 2020;16(1):10-7.
19. Al-Jawad FH, Al-Attar Z, Abbood MS. The protective effect of nitroglycerin, N-acetyl cysteine and metoprolol in CCL4 induced animal model of acute liver injury. Open access Macedonian journal of medical sciences. 2019;7(11):1739.

20. Al-Jawad FH, Hashim HH, Al-Attar Z, Al-Ani AH. Changing the lipid profile and renal functions by Allium sativum, Nigella sativa and Hibiscus sabdariffa in essential hypertensive patients. World J Pharm Phamaceutical Sci. 2018;4:125-34.
21. Al-Momen H, Hussein HK, Al-Attar Z, Hussein MJ. Green tea influence on iron overload in thalassemia intermedia patients: a randomized controlled trial. F1000Research. 2020;9(1136):1136.
22. Al-Sattam Z, Hassan S, Majeed B, Al-Attar Z. Knowledge about Anemia in Pregnancy among Females Attending Primary Health Care Centers in Baghdad. Open Access Macedonian Journal of Medical Sciences. 2022;10(B):785-92.
23. Alhilali KA, Al-Attar Z, Gibson A, Tailor A, Meng X, Monshouwer M, et al. Characterization of healthy donor-derived T-cell responses specific to telaprevir diastereomers. Toxicological Sciences. 2019;168(2):597-609.
24. Arkawazi BMF, Faraj MK, Al-Attar Z, Hussien HAA. Short Term Effectiveness of Gamma Knife Radiosurgery in the Management of Brain Arteriovenous Malformation. Open access Macedonian journal of medical sciences. 2019;7(19):3221.
25. Faraj MK, Arkawazi B, Hatim AK, Al-Attar Z. Three-dimensional printing applications in the neurosurgery: A pilot study. Open Access Macedonian Journal of Medical Sciences. 2021;9(B):403-6.
26. Gibson A, Faulkner L, Lichtenfels M, Ogese M, Al-Attar Z, Alfirevic A, et al. Correction: The Effect of Inhibitory Signals on the Priming of Drug Hapten–Specific T Cells That Express Distinct Vβ Receptors. The Journal of Immunology. 2018;200(5):1951-.
27. Hamdan SJ, Al-Attar Z, Hashim I. Prevalence of Montelukast Use as an Add-On Therapy among Iraqi Asthmatics on Treatment Attending Al-Kindy Teaching Hospital and Al-Zahraa Center of Asthma and Allergy. Open access Macedonian journal of medical sciences. 2019;7(14):2246.
28. Hasan HS, Hashim I, Al-Attar Z. The Impact of several Antihypertensive drugs and Medicinal herbs on Induced hypertension in rabbits. Research Journal of Pharmacy and Technology. 2021;14(9):4832-6.
29. Jasim NAA-AZ. Association of radiological osteoarthritis of the knee joint with locomotor disability. Al-Kindy College Medical Journal. 2019;15(1):36-42.
30. Nashtar SB, Hashim I, Al-Attar Z. The effect of parsley in the treatment of UTI in Iraqi patients. Int J Med Res and Health Sci. 2018;7(8):1-7.
31. Zaid Al-Attar SJIH. Prevalence of Anemia Types Among Overweight and Obese Patients Attending The Obesity Research and Therapy Unit at AL-Kindy College of Medicine. International Medical Journal. 2020;25(1):435-48.
32. Al-Assal, K. D. R., Al-Khafaji, A. A. M., & Thuhabat, J. A. B. (2020). Comparative Study between Nasal Endoscopic Findings and Nose and Paranasal Sinus Computerized Tomography in diagnosis of Nose and Paranasal Sinuses Diseases. *AL-Kindy College Medical Journal*, *16*(2), 35–38. https://doi.org/10.47723/kcmj.v16i2.264
33. Sultan, S. H., Kamal, Z. B., Al-Atroshi, M. A., Al-Fayadh, R., & Hussein, W. A. (2010). Is co2 laser Hemorrhoidectomy superior to conventional open Hemorrhoidectomy?. *AL-Kindy College Medical Journal*, *6*(1), 4–10. Retrieved from https://jkmc.uobaghdad.edu.iq/index.php/MEDICAL/article/view/691
34. Naji, S. H. (2011). Intraoperative Steroid Irrigation in Carpal Tunnel. *AL-Kindy College Medical Journal*, *7*(2), 108–110. Retrieved from https://jkmc.uobaghdad.edu.iq/index.php/MEDICAL/article/view/647
35. Al-Shamari, A. L. (2015). Effects of local Infiltration of Bupivacaine in total hip and knee replacement for post - operative analgesia. *AL-Kindy College Medical Journal*, *11*(1), 45–48. Retrieved from https://jkmc.uobaghdad.edu.iq/index.php/MEDICAL/article/view/407
36. Noori, I. F. (2016). Comparison between Open Mini-incision Thyroidectomy and Conventional Thyroidectomy: Clinical Experience and Literatures Review. *AL-Kindy College Medical Journal*, *12*(2), 70–76. Retrieved from https://jkmc.uobaghdad.edu.iq/index.php/MEDICAL/article/view/305

37. Thanoun, A. N. (2020). The Impact of Prophylactic Dexamethasone, Metoclopramide or both on Nausea and Vomiting After Laparoscopic Cholecystectomy. *AL-Kindy College Medical Journal*, *15*(2), 69–75. https://doi.org/10.47723/kcmj.v15i2.168
38. Hanashe, R. F., Essa, H. T., & Abdul Razaq, M. A. W. (2021). Outcome of Perforated Gallbadder during Laparoscopic Cholecystectomy. *AL-Kindy College Medical Journal*, *17*(1), 26–30. https://doi.org/10.47723/kcmj.v17i1.295
39. Abdul Razaq. (2012). Isosorbide Mononitrate versus Misoprostol for Cervical Ripening. *AL-Kindy College Medical Journal*, *8*(1), 69–74. https://doi.org/10.47723/kcmj.v8i1.615
40. Abdulmalek, I. Y., & Ibrahim, W. A. (2016). Health education program in improving knowledge regarding emergency contraception among school teachers in Duhok. *AL-Kindy College Medical Journal*, *12*(1), 38–43. Retrieved from https://jkmc.uobaghdad.edu.iq/index.php/MEDICAL/article/view/340
41. Abdulla, T. N., Hassan, Q. A., & Abood, H. K. (2021). Diagnostic Evaluation of Uterine Artery Doppler Imaging for the Prediction of Early Abnormal Pregnancy. *AL-Kindy College Medical Journal*, *17*(2), 91–94. https://doi.org/10.47723/kcmj.v17i2.236

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