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Case Report

# Mishap in Midlife - A Very Rare Case Scenario of Longest Sterilization Failure Interval (24 Years)

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## Abstract

Sub-acute abdominal pain in reproductive age group women poses a surgical or gynaecological diagnostic dilemma. Good history taking along with judicious and comprehensive application of various investigational modalities will circumvent the diagnostic delay or incorrect diagnosis, even though the sensitivity and specificity of various investigations varies. The Novelty of the reported case is that patient was serendipitously diagnosed with ectopic gestation in her midlife (vague symptoms at the age of 46 years), the age at which there are decreased fertility rates and getting pregnant is unlikely for most of the women and has a longest sterilization failure interval, as the patient had undergone bilateral tubal ligation 24 years back and also there was coexistence of bilateral ovarian cysts with Ectopic pregnancy (EP) which is very rarely seen.

***Keywords:*** *Ectopic Pregnancy; Sterilization Failure; Pain Abdomen*

## Abbreviations

EP: Ectopic Pregnancy; TVS: Transvaginal Sonography

## Introduction

Women become less fertile as they age because they begin life with a fixed number of eggs in their ovaries**.** The number of eggs decreases as women get older. By age 45 years, fertility gets declined so much that getting pregnant naturally is unlikely for most women [1]. Evaluating the cause of lower abdominal pain in reproductive age group women imposes a challenge to clinician because of presence of many differential diagnostic conditions like appendicitis, pyelonephritis, urolithiasis, pelvic inflammatory disease, endometriosis, ectopic pregnancy, ruptured ovarian cyst, torsion etc. Tubal sterilization is widely accepted, most effective method of contraception, with variable rates of failure according to the procedure adopted. Ruling out ectopic pregnancy (EP) is important in post sterilization patients who present with minimal symptoms because the morbidity and mortality is more if neglected.

## Case Report

A 46 year old female, para 2 live 2, with 2 previous caesarean section, came to our outpatient department (Department of Obstetrics and Gynaecology, Government General Hospital, Nizamabad, Telangana State) with the complaints of pain in lower abdomen since 10 days, which was intermittent in nature, neither associated with any aggrevating or relieving factors nor associated with disturbances in bowel and bladder habits. There was no history of dyspareunia, abnormal vaginal discharge, vaginal bleeding. Her menstrual cycles were regular with normal flow. She underwent bilateral tubal ligation during last her caesarean section 24 years back. She consulted a private medical practitioner one week back, who treated her with a provisional diagnosis of pelvic inflammatory disease, with broad spectrum antibiotics and analgesics for 7 days.

Since her pain was not getting relieved despite treatment, patient came to us and she was overdue of her menses by one day then. Her previous menstrual cycles were regular. A per-speculum examination of vagina and cervix was normal. Digital vaginal examination revealed the presence of anteverted bulky uterus with presence of soft mobile bilateral adnexal masses with no cervical motion tenderness. Urine pregnancy test done on the same day, with a rapid strip test came to be negative. Transvaginal ultrasonography of pelvis revealed the presence thickened endometrium of ~ 13mm and evidence of bilateral adnexal masses with no evidence of circumferential vascularity and minimal free fluid in pouch of douglas. Due to high suspicion of ectopic pregnancy quantitative assessment of serum β-hcg levels which was done, was found be to 1367.7mIU/ml. Correlating the clinical symptomology, USG findings, raised serum β-hcg levels an exploratory laparotomy was done with a provisional diagnosis of ectopic pregnancy after obtaining patient's informed consent. Intraoperatively there was nearly 20ml of hemoperitoneum with evidence of ruptured left ovarian cyst and a unruptured left ectopic pregnancy of approximately 2x2 cm located at ampullary region and a right haemorrhagic ovarian cyst 4x3 cm with impending signs of rupture as shown in figure 1 and 2. Bilateral ovarian cystectomy with bilateral salpingectomy was done. Postoperative period was uneventful and patient was discharged after 5 days. Histopathological examination of the specimen, confirmed the presence of bilateral simple ovarian cyst with left tubal ectopic pregnancy (conceptus with chorionic villi).

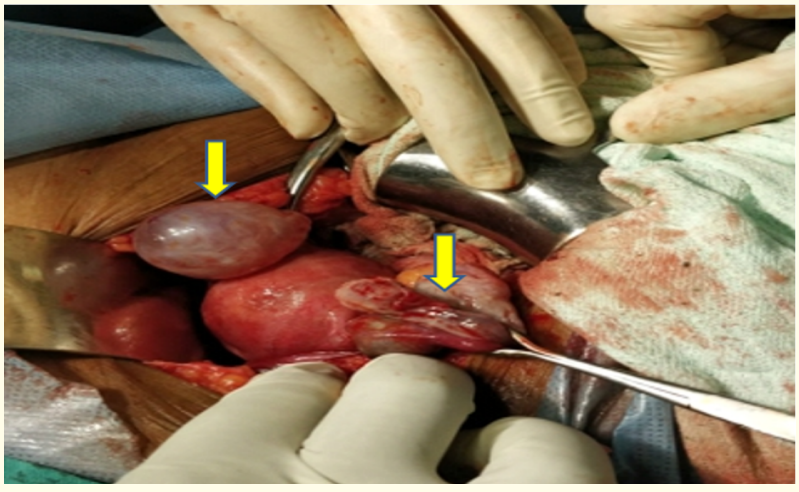

***Figure 1:*** *Right ovarian cyst with unruptured left tubal pregnancy.*

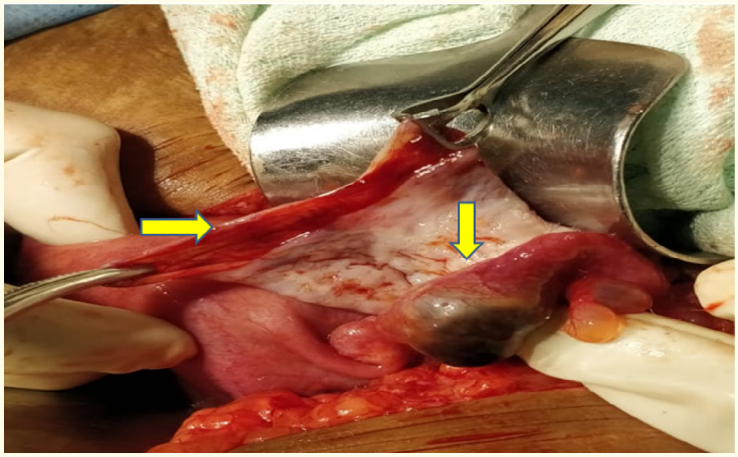

***Figure 2:*** *Ruptured left ovarian cyst with intact left ectopic pregnancy of 2x2 cms.*

## Discussion

Female fertility decreases with age in a biexponential way. Natural pregnancies and deliveries after 45yrs age are rare, which constitute only 0.2%. of total deliveries [1]. Ectopic pregnancies account for 1 - 2 % of all pregnancies occurring in the general population. Different methods of tubal sterilization include laparoscopic, minilap, hysteroscopic methods. Related to timing of surgical procedure it can be done in postpartum period or as a interval procedure or concurrently with caesarean section or other gynaecological surgery such as ovarian cystectomy etc.Though tubal ligation is a widely accepted permanent method of contraception done world-wide, rarely pregnancy can occur in failed cases, nonetheless associated with higher rates of ectopic pregnancies which attribute to cumbersome morbidity and mortality for women in their first trimester of pregnancy. The failure rate among all sterilization methods was estimated at 18.5 per 1000, approximately one-third of which were Ectopic pregnancies [2]. The risk of ectopic pregnancy varies according to the method of sterilization, timing of sterilization procedure and the age of the women at the time of sterilization procedure as documented from different studies. The increased risk of ectopic pregnancy when sterilization procedure is performed during the postpartum period can be explainable by the presence of edematous, congested, friable fallopian tubes following pregnancy results in increased chances of incomplete luminal occlusion of fallopian tube. Among the women who underwent tubal sterilization, 10 years cumulative probability of ectopic pregnancy was ~ 7.3 per 1000 procedures, as evident from results of large multicentre study (U.S. Collaborative review of sterilization), with highest proportion of ectopic pregnancies among all pregnancies after sterilization was among the women who underwent bilateral tubal coagulation [3]. The likelihood of failure of tubal sterilization in women less than 30 years is comparatively twice more than the other [2,3]. According to a study of sterilization failure over a period of 10 years done by Shilpa., *et al,* failure with minilap (59%) was more compared to laparoscopic tubal ligation (38%). Among these 38.5% failure was due to tubo-peritoneal fistula, and 19.3% were due to improper procedure.78% of failures due to improper procedure were attributed from occlusive methods with laparoscopy [4].

It is documented in literature that pregnancy can occur many years after sterilization procedure [2,4]. Non occlusion of tube due to improper procedure, formation of tubo-peritoneal fistula or re-canalization can probably explain the occurance of these EP after tubal ligation. There is a chance that sperms can travel through the fistula, but the fertilized ovum cannot migrate through fistula facilitating the implantation classically in the distal tubal segment. Longest reported sterilization failure interval was 23 years till date [4,5].

Urine pregnancy tests are commonly used to rule out pregnancy for woman of reproductive age who present with gynecological problems. Though many of the commercially available conventional kits advertise to detect pregnancy with 95- 99% sensitivity, false negative results are still possible, usage of low sensitivity kits, diluted urine, very early pregnancy period, inappropriate storage conditions, use of kits beyond the expiry date etc. In asymptomatic women with known risk factors for ectopic gestation, results of screening with transvaginal sonography (TVS) and serum hcg values have been variable.

The reported case stands unique in literature with longest sterilization failure interval as the patient had undergone bilateral tubal ligation 24 years back and presented to us with vague symptoms at the age of 46 years, the age at which there are decreased fertility rates and getting pregnant is unlikely for most of the women, and ectopic gestation was diagnosed serendipitously, which was located in distal tubal segment along with bilateral ovarian cysts.

Despite the history of tubal sterilization, it should be remembered that all women of reproductive age are at a risk of EP irrespective of age of women, method of procedure or duration of time (years) post procedure. Good history taking along with judicious application of various investigational modalities helps in timely management.

## Conclusion

The clinical information of tubal sterilization and negative urine pregnancy test does not preclude the possibility of pregnancy despite several years after the procedure as there is no age, method and interval is failure free. Combined urine, serum β-hcg assays and TVS may allow earlier diagnosis of ectopic gestations. Usual triad of ectopic pregnancy i.e, delayed menstruation, pain, vaginal bleeding or spotting may not be present in all cases. The presence of bilateral ovarian cysts with ectopic pregnancy at the age of 46years with longest sterilization failure interval of 24 years is not reported in literature till now (Medline and Pubmed search). Final diagnosis by histopathological examination of specimen should be obtained by laparotomy/laparoscopy. Re-sterilization procedures like (bilateral salpingectomy/ bilateral partial salpingectomy) helps in decreasing the recurrent ectopic pregnancies in women with sterilization failure.

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## Conflict of Interest

None declared.

## Bibliography

1. Laufer N., *et al.* "Successful spontaneous pregnancies in women older than 45 years". *Fertility and Sterility* 81.5 (2004):1328-1332.
2. Panelli DM., *et al*. "Incidence, diagnosis and management of tubal and nontubal ectopic pregnancies: a review". *Fertility Research and Practice* 1 (2015): 15.
3. Herbert Peterson., *et al*. "Collaborative review of sterilization working group in the March 1, the risk of ectopic pregnancy after tubal sterilization". *The New England journal of Medicine* 336 (1997): 762-767.
4. Date SV., *et al*. "Female sterilization failure: Review over a decade and its clinicopathological correlation". *International Journal of Applied and Basic Medical Research* 4 (2014): 81-85.

5. Huddleston HT and Dunnihoo DR. "Long term sterilization failure: Twenty three years". *The Journal of the Louisiana State Medical Society* 152 (2000): 427-428.

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