### **Case Report**

DOI: 10.5455/2349-2902.isj20150534

# Postpartum sterilization ligature presenting as right iliac fossa mass: an unusual presentation

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**Received:** 11 February 2015 **Accepted:** 22 March 2015

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#### **ABSTRACT**

Tubal ligation is a popular female contraceptive method. There are different methods of tubal ligation like ligation, cutting and stitching, clipping, banding or by using electrocoagulation. The tubal ligation is done by using minilaparotomy, laparoscopy or by hysteroscopy. Isolated tubal torsion or tubo-ovarian torsion following tubal ligation is one of the rare complication but cases have been reported in the literature. Migration of the Filshie clip is a well-recognized complication and few cases have been reported. We report a rare case of postpartum sterilization ligature presenting as a right iliac fossa mass (RIF). In the literature search no such case has been reported till date.

Keywords: Sterilization, Postpartum, Ligature, Abdominal mass

#### INTRODUCTION

The first suggestion of tubal ligation was in 1823 by Blundell. The first fallopian tubal ligation was done by OH Lungren in 1880. Several surgeons from 1885 to 1898 had performed tubal ligation in one form or the other notable among them are Thomas, Duhrssen, Kehrer, Buetlner, Ruhl and Rose. In 1919, Madlener crushed and ligated the tubes with non-absorbable suture. In 1924 Irving method became popular and in 1930 a colleague of Pomeroy posthumously published his technique which is widespread method used in minilaparotomy. In 1960, the era of laparoscopy began with unipolar electrocoagulation of the fallopian tube. In 1981, Filshie introduced a titanium and silicone clips. 1

Materials used to occlude the fallopian tube include like suture material, silicone rubber, stainless steel, gold, and titanium. The long term complication of tubal occlusion includes isolated tubal torsion, tubo-ovarian torsion, tuboperitoneal fistula, ectopic pregnancy and tubal clip migration. Few cases of isolated tubal or tubo-ovarian torsion have been reported. The clip migration and expulsion through the abdominal wall, via the anus, vagina, and urethra has been reported. Expulsion has occurred as early as 6 weeks after application and as late as 21 years.<sup>2</sup>

#### **CASE REPORT**

A 65 year old lady presented with dull aching right lower abdominal pain since 2 years and mass per abdomen for the last 1 month. There was no history of vomiting, distension, constipation. She had undergone post-partum sterilization 35 years back. There was no history of any other surgery. On examination, she was found to be comfortable. Her pulse rate was 76 beats per minute, with a blood pressure of 130/84 mmHg. Abdominal examination revealed tubectomy scar. Abdomen was soft,

nontender. There was a palpable mass measuring 4x3 cm in the RIF, which was tender and firm in consistency. It was not freely mobile. The mass didn't disappear on leg raising test.

A provisional diagnosis of abdominal wall desmoid tumour was made.

Ultrasound scan showed heterogeneous lesion in the muscular layer and there was no connection to the abdominal cavity.

Fine needle aspiration cytology was suggestive of spindle cell lesion.

Contrast Enhanced Computed Tomography (CECT) of abdomen (Figure 1) showed 3x2 cm heterogeneous lesion in the abdominal muscular layer- probably inflammatory origin. There was a band like structure connecting right side of the uterus to the right lower abdominal wall just above the right deep ring- probably inflammatory origin. Right ovary not seen and left ovary was normal.



Figure 1: CECT abdomen showing a band between uterus and abdominal wall with mass in RIF.



Figure 2: Photograph showing suture inside the mass in the right EOA & IO muscle).

Diagnostic laparoscopy revealed (Figure 2) a thick band, 2 cm in diameter was connecting right side of the uterus to right lower abdominal wall, 2cm above the right deep ring and it was excised. There were no any other adhesions.

Incision was taken on the mass. The mass was in the right External Oblique Aponeurosis (EOA), Internal Oblique (IO) and transversus abdomens muscle. There was a linen suture, in the ring form (5 mm) with two loops and knot. The suture was surrounded by granulating tissue. The mass was excised along with part of the EOA and IO muscle. The defect was covered with polypropylene mesh. Post op period was uneventful. Patient is in good health in the last one year follow up.

#### Histopathology

- 1. Microscopic examination of the mass revealed fibrocollagenous and adipose tissue with focal areas of lymphoplasmacytic infiltrate and dense eosinophilic infiltrate. One area showed hemosiderin laden macrophages and acute inflammatory infiltrate- Inflammatory lesion.
- 2. Microscopic examination of connecting band showed features of atrophic ovary.

#### DISCUSSION

Female sterilization is usually done by minilaparotomy or by laparoscopic method. It can also be done at the time of a caesarean section or after the delivery.

Following a sterilization there may be abscess formation, ulceration, fistula formation, tissue induration and adhesion at the site of tubal occlusion and suggest local tissue reaction.<sup>3</sup>

Isolated fallopian tube torsion primarily affects adolescents. It can also be seen in older ovulating women, and very rarely in postmenopausal woman. The process was first described in 1890 by Bland-Sutton. The literature approximates the overall incidence as 1 in 1.5 million women. The predisposing factors are previous tubal ligation, hydrosalpinx, tubal carcinoma, Pelvic Inflammatory Disease (PID), ovarian and paraovarian masses, trauma/surgery and pregnancy.

Excision of portion of a fallopian tube during the Pomeroy procedure may add abnormal mobility to the distal portion of the tube. In the modified Pomeroy technique the possibility of spontaneous tubal torsion increases due to increased mobility of the distal portion of the tube, as there is separate ligation of the proximal and distal fallopian tube segments.<sup>6</sup>

It is more common on right side because the left fallopian tube is partially immobilized by the sigmoid mesentery.<sup>7</sup> The proposed mechanism for fallopian tube torsion is

pelvic congestion, edema due to adnexal venous and lymphatic obstruction. All these factors will results in enlargement of the fimbrial end of the fallopian tube, leading to torsion. The fallopian tubes and ovaries receive their vascular supply from the ovarian and uterine arteries, and thus it is possible for the fallopian tube to undergo torsion. In majority of the cases fallopian tube torsion will be encountered in conjunction with ipsilateral ("tubo-ovarian torsion").8 torsion sterilization procedures have been associated with hydrosalpinx formation.<sup>6</sup> The pregnancy associated physiological venous congestion with additional weight by the hydrosalpinx may lead to spontaneous torsion. The fallopian tube torsion can occur from 6 months to 8 years later.9

If treatment is delayed, the fallopian tube will likely undergo necrosis and may extend locally, damaging the ipsilateral ovary. The torsed tube may also become gangrenous and lead to peritonitis if left untreated. Later, it may lead to adhesion formation with abdominal wall.

The laparoscopy helped us to avoid the laparotomy.

We can postulate that there might have been tubal or tubo-ovarian torsion or PID leading to peritonitis and adhesion formation. During this process the cut end of the distal tube with ligature might have breached the peritoneum. The mass formation may be due to local tissue reaction to the suture material. The connecting band was due to stretched out ovary.

#### **CONCLUSION**

Though unheard, such phenomenon can occur. This case adds to the body of literature concerned with a rare complication of tubal ligation or PID. The laparoscopy can be diagnostic as well as therapeutic in undiagnosed intra-abdominal conditions.

Funding: No funding sources Conflict of interest: None declared Ethical approval: Not required

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DOI: 10.5455/2349-2902.isj20150534

Cite this article as: Teli B, Venugopal PR, Avula S, Vinay AV, Thyagarajappa P. Postpartum sterilization ligature presenting as right iliac fossa mass: an unusual presentation. Int Surg J 2015;2:286-8.