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## Case Report

# Hotdog in bun: a recent technique for oophoropexy

Nitin H. Shah<sup>1</sup>, Aditi V. Joshi<sup>1\*</sup>, Gitanjali Belekar<sup>2</sup>

<sup>1</sup>Department of Obstetrics and Gynecology, Vardann Multispeciality Hospital, Mumbai, Maharashtra, India

<sup>2</sup>Department of Obstetrics and Gynecology, Guru Nanak Hospital, Mumbai, Maharashtra, India

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**\*Correspondence:**

Dr. Aditi V Joshi,

E-mail: [avj111@gmail.com](mailto:avj111@gmail.com)

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### ABSTRACT

Ovarian torsion is an acute gynaecological emergency. It may present at any age group, however it is more common in the reproductive years. The patient may present with a myriad of clinical features which are often non-specific posing a diagnostic dilemma. Ultrasonography is the best initial modality of imaging. Once diagnosed a surgical approach is the mainstay of treatment. Preservation of ovaries and preventing recurrence in young patients is crucial. We present a case of a young adolescent girl diagnosed with an ovarian torsion who was managed laparoscopically. Oophoropexy was done to avoid future recurrence by an emerging method called the “Hotdog in bun” technique.

**Keywords:** Ovarian torsion, Oophoropexy

### INTRODUCTION

Ovarian torsion comprises of the ovary rotating around its ligamentous pedicles. It is considered as a surgical emergency.<sup>1,2</sup> The incidence varies between 2-15%.<sup>3,4</sup> The condition is common in women of reproductive age group and is found to be more common on the right side.<sup>5</sup> This could be attributed to the presence of the sigmoid colon on the left, which may hamper the process of torsion. The diagnosis may remain a dilemma for a long time owing to the non-specific nature of the symptoms. The most common cause of an ovarian torsion is a mass or a cyst usually more than 5cm. However, torsion has also been noted in normal ovaries of young adolescent girls which may be attributed to the elongated pedicles of infundibulopelvic ligament.<sup>6</sup> Timely intervention is necessary to avoid catastrophic events.

### CASE REPORT

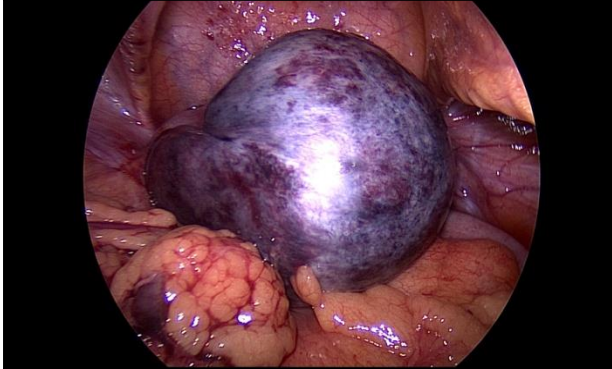
A 17-year-old unmarried girl presented with vague complaints of pain in abdomen over the past two weeks

which aggravated since 2 days. There were no other associated symptoms like nausea or vomiting. Her menstrual cycles were irregular. On examination, her vital parameters were normal. Systemic examination was within normal limit. On per abdomen examination, abdomen was soft with mild tenderness in the left iliac region.

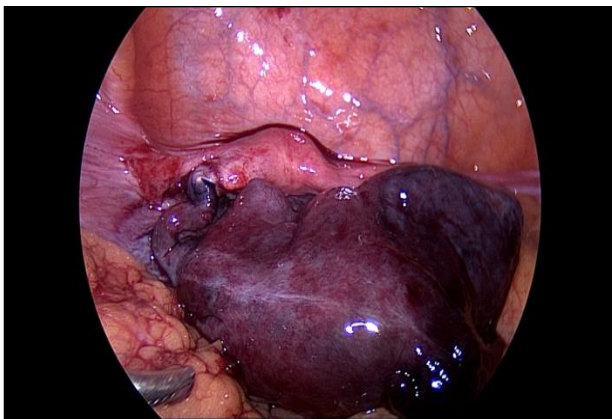
On evaluation, her blood investigations were unremarkable, except a slightly elevated total leucocyte count of 20,100. On ultrasonography, a cyst of around 5-6cm was shown in the left adnexa with doppler findings suggestive of a possibility of ovarian torsion. An emergency laparoscopy was planned for her.

The laparoscopic primary port was 10mm supra-umbilical port. Two ancillary 5mm ports were inserted from the left side. Intraoperative findings were suggestive of presence of torsion of the left ovary and fallopian tube with marked edema and congestion (Figure 1, 2). Detorsion was performed following which cystectomy was done. In order to avoid potential recurrent episodes in the future, an oophoropexy was performed by the

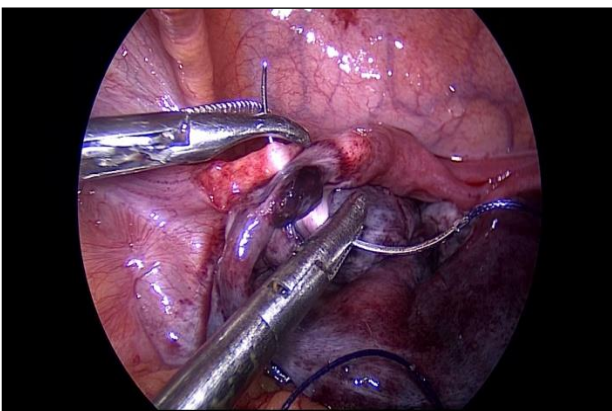
“hotdog in bun technique (Figure 5). An absorbable suture material polyglactin no 1-0 was utilised. A lateral mattress suture was passed in an atraumatic fashion from the uterovarian ligament followed by the clear area in the mesosalphinx and the round ligament and brought back in the opposite direction and tied (Figure 3, 4). Hemostasis was checked. Port closure was done with staplers.



**Figure 1: Visualization of the left ovarian torsion on insertion of the laparoscope.**

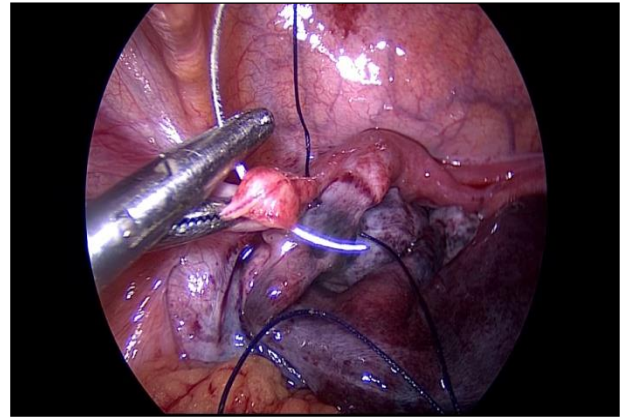


**Figure 2: Image after detorsion, note the marked ovarian edema.**

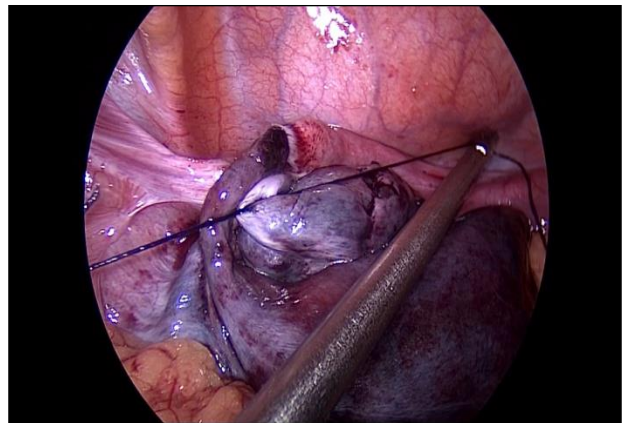


**Figure 3: Beginning of the lateral mattress suture, starting from the utero-ovarian ligament passing through the mesosalphinx and finally through round ligament.**

She had an uneventful postoperative recovery and was discharged on day 2. Follow up ultrasonography performed a month later was normal indicating spontaneous resolution of the ovarian edema.



**Figure 4: Image depicting the reversing of the needle to complete the mattress suture.**



**Figure 5: “Hotdog in bun” technique.**

## DISCUSSION

Ovarian torsion often results due to a complete or partial torsion of the ovary and the fallopian tube over its ligaments. These ligaments act as the vascular pedicle and torsion leads to twisting of the pedicle which hampers the blood supply to the ovary. Most often torsion occurs in cysts that are larger in diameter, often more than 5cm, those with multiple follicular cysts and patients undergoing ovulation induction. In young adolescents, anatomical variations like elongated ovarian pedicles or round ligament can lead to torsion in an apparently normal ovary.<sup>7</sup>

Acute pain in abdomen is a common presenting symptom in ovarian torsion. However, it is highly non-specific and includes a large list of other possible surgical conditions. Besides pain, nausea and vomiting and at times a low grade fever is commonly encountered. These symptoms are variable, ill sustained and often delayed.<sup>8,9</sup> Repeated

events of torsion and detorsion can ultimately result in ischemia and necrosis of the ovarian tissue which can cause permanent damage. Hence, one must be vigilant and aware of this diagnosis especially in women of the reproductive age group.

The diagnosis is primarily by clinical examination with imaging modalities proving to be a great asset. A pelvic ultrasound coupled with a colour doppler can hinge the diagnosis. Ultrasonography may reveal an enlarged and edematous ovary. Doppler is a useful adjunct as reduced blood flow is a marker of ovarian torsion. However, it can only detect interference in arterial blood flow patterns and not venous. Often venous interference of flow patterns precedes that of arterial flow which may be missed. One case study reported almost 60% cases being missed on doppler sonography. Also, intermittent torsion-detorsion events may not be detected.<sup>10</sup>

Conservative management comprises of untwisting the torsion (detorsion). Recent studies have emphasized the role of conservation of the ovaries even in cases where the ovaries have a necrotic appearance. Often, the blood supply is restored once the pedicle is untwisted and the congestion and edema has been noted to subside eventually.<sup>11</sup> There is evidence regarding adopting methods to fix the ovary, also known as “Oophoropexy” to prevent recurrence of torsion.<sup>12</sup> Some of these methods include fixing the ovary to the posterior uterine wall or the lateral pelvic wall.

The “hotdog in bun” technique is a new method on the block. In this method, the round ligament and utero-ovarian ligaments act as the “bun”, while the fallopian tube serves as the “hotdog”. The fallopian tube is cushioned in between the two ligaments. A lateral mattress suture is passed from the round ligament, the clear space of the mesosalphinx and the utero-ovarian ligament. This decreases the mobility of the long ligament pedicles while avoiding excessive crushing of the tube. In cases where the round ligament or utero-ovarian ligament is excessively long, a plication of the same can be done as an adjunct procedure. However, there is no long term data to know the outcome of these measures.

## CONCLUSION

A clinician must be vigilant to include ovarian torsion as a differential diagnosis in young adolescent girls with acute abdominal pain. Timely diagnosis in these young patients is of prime importance and avoids fertility issues

in future. The “hotdog in bun technique” is a simple and effective way that can help avoid recurrent torsion.

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