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Laparoscopic Treatment of Fallopian Tube Torsion on Hydrosalpinx in Children: Case Report

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Abstract **Case Report**

Tubal torsion, the complete twisting of the fallopian tube, is a rare cause of abdominal pain in pediatric patients, often associated with congenital anomalies like hydrosalpinx. Initial diagnostic tests include blood analysis and ultrasound, though definitive diagnosis requires surgical exploration, typically via exploratory laparoscopy. Conservative surgery aimed at detorsion is preferred to preserve fertility, with long-term follow-up necessary. Pathological studies suggest that microscopic integrity of the tube can be maintained even if it appears necrotic macroscopically, and a watchful waiting approach may be suitable for asymptomatic, uncomplicated hydrosalpinx. We report the case of a 13 years old patient with isolated torsion of the fallopian tube on hydrosalpinx.

Keywords: Torsion, Fallopian Tube, Hydrosalpinx, Laparoscopy, Children.

INTRODUCTION

Isolated torsion of the fallopian tube on hydrosalpinx in children is a rare and largely unrecognized condition, typically managed with non-conservative treatment [1]. It is the least common emergency among adnexal torsions [2]. We report the case of a 13 years old patient with isolated torsion of the fallopian tube on hydrosalpinx.

CASE-REPORT

We report the case of a 13-year-old female adolescent with a history of untreated fetid leukorrhea, admitted to our department for the management of pelvic pain. Clinical examination revealed pelvic tenderness. The patient underwent a pelvic ultrasound and an abdominopelvic CT scan, which showed a right hydrosalpinx with pelvic effusion (figure 1).

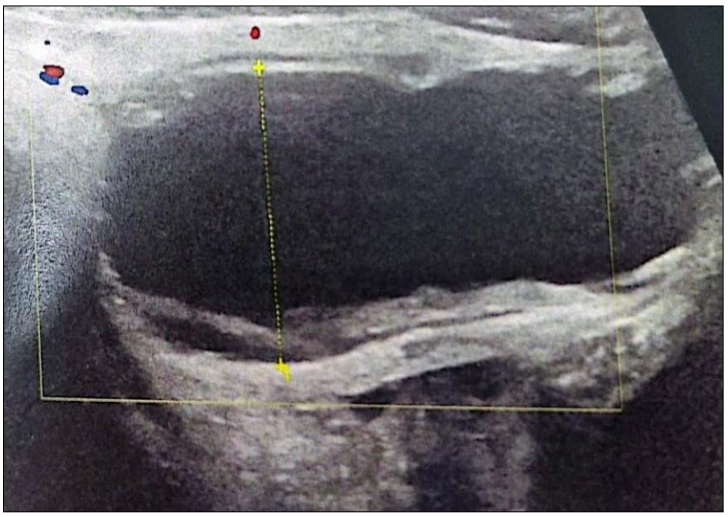

Figure 1: ultrasound image showing the hydrosalpinx

The patient was admitted to the operating room for laparoscopic exploration. During this exploration, a mass was found on the right fallopian tube upstream of a torsion of the same tube (2 complete twists) with no signs of necrosis (figure 2, figure 3). Detorsion of the tube was performed, followed by complete resection of the mass.

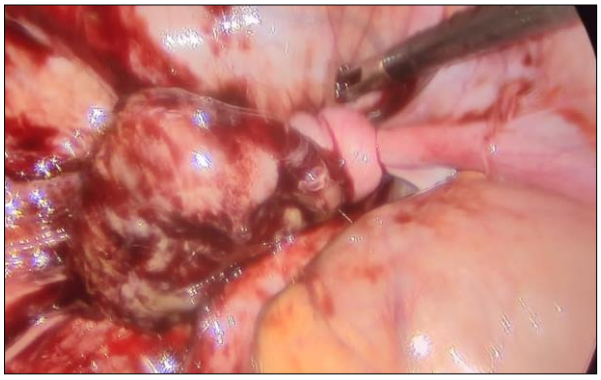

Figure 2: preoperative image showing hydrosalpinx and the spiral turns of the fallopian tube.

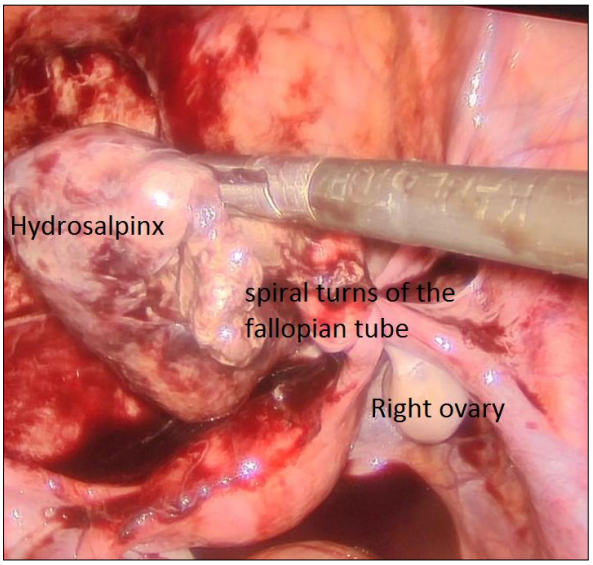

Figure 3: preoperative image showing the detorsion procedure

The postoperative course was uncomplicated, and the patient's progress was good during the monthly follow-up. The histopathological examination was consistent with salpingitis of the fallopian tube.

DISCUSSION

Tubal torsion is defined as the complete twisting of the fallopian tube at least once. The ovary is not involved in the torsion [3, 4].

In adults, various intrinsic and extrinsic predisposing factors for isolated fallopian tube torsion have been identified [5]. In pediatric patients, potential factors include preexisting congenital anomalies like hydrosalpinx [6]. Hydrosalpinx is characterized by the accumulation of serous fluid in the ampullary lumen due to distal obstruction at the infundibulum [7]. This obstruction can result from primary or secondary causes. Primary causes are anatomical, including abnormalities in length, mobility, and structure [8].

Torsion of the fallopian tube is an uncommon cause of abdominal pain in the pediatric age group. When it occurs without torsion of the ovary, it is referred to as isolated fallopian tube torsion. Few cases of isolated fallopian tube torsion associated with hydrosalpinx have been reported in the literature [9]. Hydrosalpinx without torsion may be symptomatic and can present with nonspecific signs of infection, such as abdominal tenderness and fever.

In terms of further tests, blood analysis should be performed to guide the initial diagnostic suspicion. However, leukocytosis and elevated CRP levels are not specific to this condition. Ultrasound should be the first imaging test due to its availability and diagnostic efficacy. The presence of a normal ovary with an adjacent cystic appearance on imaging is useful for making a preoperative diagnosis of isolated fallopian tube torsion. Laboratory tests, including tumor markers and human chorionic gonadotropin for ectopic pregnancy, may be useful depending on the patient's history and ultrasound findings. Magnetic resonance imaging is a valid alternative but is less accessible and efficient [11].

Nevertheless, surgical exploration is the only definitive way to confirm the clinical suspicion of isolated fallopian tube torsion. Exploratory laparoscopy is the initial surgical and diagnostic approach in the majority of cases [11].

Conservative surgery is ideally attempted, aiming for detorsion of the fallopian tube to preserve fertility, though this approach may vary with the surgeon's preference [12]. Long-term clinical follow-up and ultrasound monitoring until adulthood are necessary. Pathological studies have shown that while the tube may appear necrotic macroscopically, microscopic examination can reveal the preservation of hair cells [6-13]. The role of salpingectomy is debated, especially considering current recommendations for ovarian torsion. Even for ovaries with a necrotic appearance, conservative surgery involving detorsion of the adnexa is advised, as it has not been associated with increased morbidity [14]. In cases of asymptomatic, uncomplicated isolated hydrosalpinx, a watchful waiting approach can be considered due to reports of spontaneous resolution [13].

CONCLUSION

Fallopian tube torsion has a nonspecific clinical presentation, and preoperative suspicion is rare. Additionally, it’s recommended that in cases of fallopian

tube torsion associated with hydrosalpinx, conservative management should be preferred to provide the best options for preserving future fertility in these girls.

Conflict of Interests: The authors have no conflict of interests to declare.

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