

Ovarian Torsion Masquerading as Appendicitis in a Nine year Old Child- A Case Report

Sowmya M¹, Shashidhar S², Trishuli B P³

¹Dr Sowmya M, Consultant, Obstetric & Gyenecology, ²Dr Shwetha Shashidhar, Consultant, Obstetric & Gyenecology, ³Dr Trishuli BP, Surgeon. All are affiliated to Sri Shivarathri Rajendra Hospital, Chamrajnagar, Karnataka, India.

Address for correspondence: Dr Sowmya M, Email: sowmyam2006@gmail.com

Abstract

Ovarian torsion is an infrequent diagnosis in the pediatric age group. The clinical picture is nonspecific in children, which often makes the diagnosis a challenge. We present a case of a nine year old girl who presented with a two day history of fever, vomiting and acute abdominal pain. Initial diagnosis of acute appendicitis was made, however, on operative exploration, she was found to have a right adnexal torsion and detorsion was done. Ovarian torsion should be considered as differential diagnosis in pediatric and adolescent females presenting with abdominal pain. However, early recognition and prompt management yield significant reduction in morbidity and an increased likelihood of ovarian salvage to maximize the future reproductive potential.

Keywords: Ovarian Torsion, Pediatric Age, Conservative Approach.

Introduction

Ovarian torsion is the twisting of the ovary on its vascular support. It's a rare entity in pediatric age group [1]. The diagnosis pose a greatest challenge in pediatric age group as it lacks specificity of signs and symptoms and can mimic other acute abdominal condition [2]. Adnexal torsion accounts for up to 2.7% of all cases with acute abdominal pain in children [3,4]. The estimated incidence is 4.9 per 100,000 among females 1-20 years old [5]. In children torsion on a normal ovary is more frequent because of the greater length of the ovarian pedicle [6]. An abnormally long fallopian tube, mesosalpinx or mesoovarium causes an excess of mobility of the adnexa, determining a higher risk of torsion [6,7]. Torsion of the ovarian blood supply will result in venous congestion, hemorrhage, and eventually ischemia. Prolonged ischemia of the ovary or other adnexal structures can lead to necrosis, resulting in loss of ovarian function or infection [8]. We report a case of ovarian torsion masquerading as acute appendicitis and its management.

Case Report

A nine year old girl was referred to us from Taluk

Manuscript received: 04th Oct 2014

Reviewed: 15th Oct 2014

Author Corrected: 29th Oct 2014

Accepted for Publication: 30th Oct 2014

Hospital with two day history of fever, vomiting and severe right lower abdominal pain. On physical examination, the vital signs were within normal parameters, temperature was 37.5°C. On Per abdomen examination tenderness was present in the right lower quadrant. She had involuntary guarding. The patient's white blood count was elevated, while other blood indices were within normal levels. She was diagnosed as acute appendicitis by physical examination and US abdomen. Intravenous antibiotics and analgesics were given. The pain didn't subside and was taken for surgical exploration. She was subsequently found to have right ovarian torsion. The right adnexa was twisted [Fig 1 & 2], detorsion was done [Fig 3]. No other associated adnexal pathology was seen. The patient was discharged on postoperative day five without further complications. Follow-up ultrasound performed nine weeks later showed normal ovary with good arterial and venous blood flow.

Discussion

Ovarian torsion is an uncommon condition in pediatric age group. Adnexal torsion occurs primarily in the child-bearing age group, but it is not uncommon in premenarchal girls. For premenarchal girls, torsion occurs mostly in neonates, commonly associated with

Case Report

cysts [8]. Ovarian cysts in newborn are usually due to the increased levels of circulating maternal hormones. The torsion may involve a normal ovary or an ovary with functional pathology or with benign or malignant neoplasm [9,10]. The most frequent etiologies of adnexal torsion are benign cystic teratomas, tubal cysts, follicular cysts and serous or mucinous cystadenomas

[11]. However Descargues et al reported that normal ovaries or ovaries with benign pathology are responsible for 97% of adnexal torsions [12]. Torsion occurs frequently (60%) on the right side presumably because the sigmoid colon leaves limited space for adnexal movement [4].



Fig 1: Ovary is twisted with blood vessels

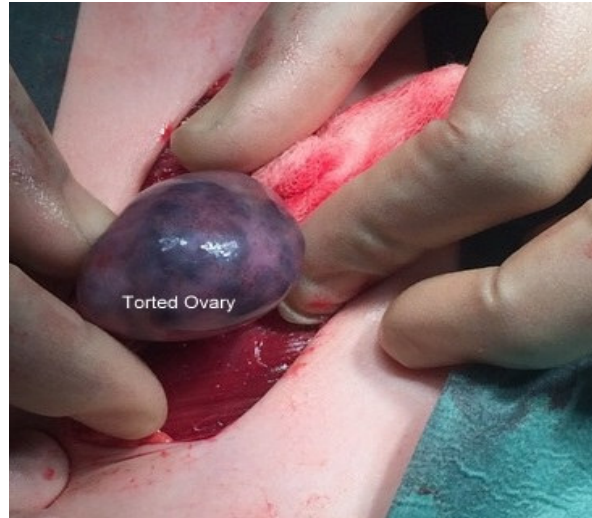


Fig 2: Torted Ovary

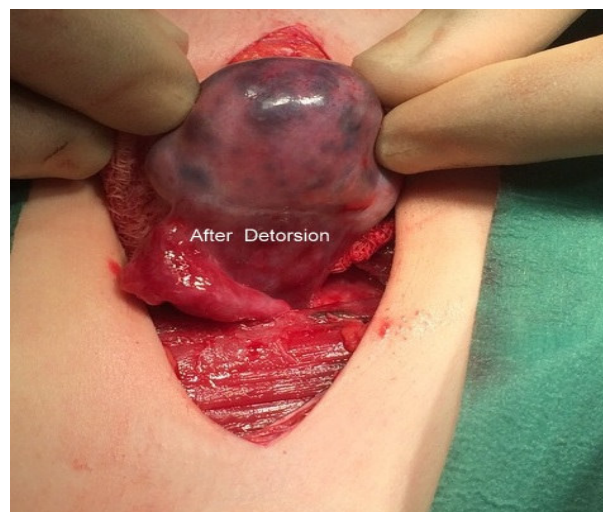


Fig 3: After Detorsion

The presentation can mimic appendicitis [14], urinary tract infection, gastroenteritis, or other conditions of acute abdominal and pelvic pain [11]. Pomeranz et al reported that 38% of children with adnexal mass were initially diagnosed in the emergency department with appendicitis probably of predominance of right-sided abdominal pain [13].

The primary diagnostic modality employed for suspected ovarian torsion is Ultrasound scan [15]. The most common finding is an enlarged hypo or hyperechoic ovary, free pelvic fluid, whirlpool sign [16] of twisted vascular pedicle, underlying ovarian lesion can often be found, the uterus may be slightly deviated towards the torted ovary. Other imaging modality like CT can also be

Case Report

useful [15], when Ultrasound is inconclusive. Thus, direct visualization by laparoscopy or laparotomy is the gold standard to confirm the diagnosis of ovarian torsion.

Although there is significant evidence to support detorsion and ovarian conservation, regardless of the ovary at operation[11,20], many surgeons believe that it is too late to salvage the twisted ovary, as the time interval from admission to diagnosis and performing conservative surgery has an inverse relationship[17], hence advocate resection, risking their long-term fertility.

Among the reasons for this are the risk of malignancy associated with torsed ovaries, fear of embolisation after untwisting of thrombosed veins, and also the belief that a grossly black hemorrhagic adnexa is irreversibly damaged [18,19], yet no strong evidence exists to support this claim [11].

Our patient was able to undergo ovarian salvage as blood flow was restored after correction.

Conclusion

Ovarian torsion if missed in a pediatric age group potentiates high morbidity. Abdominal pain in the female child represents a challenging differential diagnosis and increases awareness of clinical presentation as reported in this case.

Ovarian preservation in children offers benefits of normal puberty and future fertility. Prompt diagnosis and emergent surgical intervention is required for ovarian salvage.

Funding: Nil

Conflict of interest: Nil

Permission from IRB: Yes

References

1. Galinier P, Carfagna L, Delsol M, Ballouhey Q, Lemasson F, Le Mandat A, Moscovici J, Guitard J, Pienkowski C, Vaysse P. Ovarian torsion. Management and ovarian prognosis: a report of 45 cases. *J Pediatr Surg.* 2009 Sep;44(9):1759-65. doi: 10.1016/j.jpedsurg.2008.11.058.
2. Poonai N, Poonai C, Lim R, Lynch T. Pediatric ovarian torsion: case series and review of the literature. *Can J Surg.* 2013 Apr;56(2):103-8. doi: 10.1503/cjs.013311.

3. Hoey BA, Stawicki SP, Hoff WS, Veeramasoneni RK, Kovich H, Grossman MD. J Pediatr Surg. Ovarian torsion associated with appendicitis in a 5-year-old girl: a case report and review of the literature. *J Pediatr Surg.* 2005 Sep;40(9):e17-20. doi:10.1016/j.jpedsurg.2005.05.068.

4. Hibbard L.T. Adnexal torsion. *Am J Obstet Gynecol.* 1985; 152: 456-461. doi:10.1016/S0002-9378(85)80157-5.

5. Guthrie BD, Adler MD, Powell EC. Incidence and trends of pediatric ovarian torsion hospitalizations in the United States, 2000-2006. *Pediatrics* 2010; Mar 125(3): 532-8. doi:10.1542/peds.2009-1360.

6. Huchon C, Fauconnier A. Adnexal torsion: a literature review. *Eur J Obstet Gynecol Reprod Biol* 2010;150:8-12. doi:10.1016/j.ejogrb.2010.02.006.

7. Kamio M, Oki T, Inomoto Y, Tsuji T, Yoshinaga M, Douchi T. Torsion of the normal ovary and oviduct in a pre-pubertal girl. *J Obstet Gynaecol Res* 2007; 33:87-90. doi: 10.1111/j.1447-0756.2007.00481.x.

8. Matthew F. Ryan and Bobby K. Desai, "Ovarian Torsion in a 5-Year Old: A Case Report and Review," *Case Reports in Emergency Medicine*, vol. 2012, Article ID 679121, 3 pages, 2012. doi:10.1155/2012/679121.

9. Spinelli C, Di Giacomo M, Mucci N, Massart F. Hemorrhagic corpus luteum cysts: an unusual problem for pediatric surgeons. *J Pediatr Adolesc Gynecol* 2009; June 22(3) 22:163-167. doi:10.1016/jpag.2008.07.013.

10. Spinelli C, Di Giacomo M, Cei M, Mucci N. Functional ovarian lesions in children and adolescents: when to remove them. *Gynecol Endocrinol* 2009; May 25(5):294-298. doi:10.1080/09513590802530932.

11. Aziz D, Davis V, Allen L, et al. Ovarian torsion in children: Is oophorectomy necessary? *J Pediatr Surg.* May 2004;39(5):750-3. doi: 10.1016/j.jpedsurg.2004.01.034.

12. Descargues G, Tinlot-Mauger F, Gravier A, Lemoine JP, Marpeau L. Adnexal torsion: a report on forty-five cases. *Eur J Obstet Gynecol Reprod Biol* 2001; 98(1):91-96. doi: 10.1016/S0301-2115(00)00555-8.

Case Report

13. Pomeranz AJ, Sabnis S. Misdiagnoses of ovarian masses in children and adolescents. *Pediatr Emerg Care*. 2004 Mar ;20(3):172-4. doi: 10.1097/01.pec.0000117925.65522.e8.

14. Krupinska, E., Klimanek-Sygniet, M., and Chilarski, A. Rare coexistence of phlegmonous appendicitis and tumor of a twisted left ovary. *Ginekol Pol*. 2003; 74: 307–311.

15. Spigland, N., Ducharme, J.C., and Yazbeck, S. Adnexal torsion in children. *J Pediatr Surg*. 1989; Oct 24(10): 974–976. doi:10.1016/S0022-3468(89)80195-2.

16. Vijayaraghavan SB, “Sonographic whirlpool sign in ovarian torsion,” *Journal of Ultrasound in Medicine*, 2004;Dec 23(12):1643-49. PMID: 15557307.

17. Rousseau V, Massicot R, Darwish A, et al. Emergency management and conservative surgery of

ovarian torsion in children: a report of 40 cases. *J Pediatr Adolesc Gynecol*. 2008, Aug;21(14):201–6. doi:10.1016/j.jpjag.2007.11.003.

18. Mordehai J, Mares AJ, Barki Y, et al. Torsion of uterine adnexa in neonates and children: a report of 20 cases. *J Pediatr Surg*. 1991; Oct 26(10):1195–9. doi:10.1016/0022-3468(91)9033-O.

19. Kokoska, E.R., Keller, M.S., and Weber, T.R. Acute ovarian torsion in children. *Am J Surg*. 2000; Dec 180(6): 462–465. doi: 10.1016/S0002-9610(00)00503-1.

20. Agarwal P, Agarwal P, Bagdi R, Balagopal S, Ramasundaram M, Paramaswamy B. Ovarian preservation in children for adnexal pathology, current trends in laparoscopic management and our experience. *J Indian Assoc Pediatr Surg* 2014; Mar 19(2):65-9. doi:10.4103/0971-9261.129594.

.....
How to cite this article?

Sowmya M, Shashidhar S, Trishuli B P. Ovarian Torsion Masquerading as Appendicitis in a Nine Year Old Child-A Case Report. *Int J Med Res Rev* 2014;2(6):627-630. doi:10.17511/ijmrr.2014.i06.22
.....