

Primary torsion and necrosis of the vermiform appendix in a child: A case report

Çocukta vermiform apendiksin primer torsiyon ve nekrozu: Olgu sunumu

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ABSTRACT

Acute appendicitis is the most common cause of acute abdominal pain orienting on the right lower quadrant in children. Some other conditions including torsion of the vermiform appendix can simulate acute abdomen. A three-year-old female child was reported to be suffering from acute right abdominal pain. During the routine appendectomy procedure, necrotic vermiform appendix was found which was twisted in clockwise direction. To the best of our knowledge, our patient is the youngest one among cases with twisted vermiform appendicitis that had been reported in the literature.

Keywords: Necrosis, appendix, child

ÖZ

Akut apendisit çocuklarda akut sağ alt kadranda ağrısının en sık etiolojisidir. Torsiyone vermiform apendiks gibi bazı nedenler de akut batin tablosunu taklit edebilmektedir. Bu makalede akut sağ alt kadranda ağrısı ile görülen ve akut apendisit tanısı alan 3 yaşında bir kız çocukta karşılaşılan saat yönünde torsiyone olmuş ve nekrotik vermiform apendiks bildirilmektedir. İlgili literatür ışığında görüldüğü kadarıyla 3 yaşındaki bu olgu nekrotik torsiyone vermiform apendiks olguları içinde bu güne kadarki en küçük olgudur.

Anahtar kelimeler: Nekroz, apendiks, çocuk

INTRODUCTION

Acute appendicitis is the most common cause of acute abdominal pain localized on the right lower quadrant in children. Some other conditions including torsion of the vermiform appendix can also simulate acute abdomen. Torsion and necrosis of the vermiform appendix are rarely seen in children. The signs and symptoms are similar to that of acute appendicitis and the diagnosis is usually made at the time of surgery¹. There have been few and sporadic descriptions of these conditions in the international literature since the initial description by Payne in 1918¹⁻⁷. To the best of our knowledge this case is the youngest one among the patients with primary torsion and necrosis of the vermiform appendix reported to date.

CASE REPORT

A 3-year-old girl presented with acute right lower quadrant pain that started six hours ago. Her family sta-

ted that she was vomited two times. On initial examination she was afebrile, agitated and uncomfortable even at rest. Blood examination showed white blood count of 23.000/mm³ with 24% neutrophils, and 76% lymphocytes. Hemoglobin was 11.6 g/dL. Urine microscopy was normal. Plain abdominal radiograms showed no abnormality. Abdominal ultrasonography revealed free fluid and distended, edematous non-peristaltic and noncompressible 7.5 cm-long appendix. Based on her history and physical examination findings, the patient was diagnosed as having acute appendicitis and underwent appendectomy. Intraoperatively necrotic vermiform appendix was found which was twisted clockwise about 360 degrees. About 25 ml of seroanguinous fluid was found in the peritoneal cavity. Appendectomy was performed and no other intraabdominal pathology was noted. Histology showed ischemic infarct areas of the edematous appendix. Her postoperative history was uneventful and she was discharged on postoperative third day.

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DISCUSSION

Torsion and necrosis of vermiform appendix is a very rare condition in children which simulates acute appendicitis. Since the first description of the torsion of vermiform appendix by Payne in 1918² there are few reports about pediatric cases. Even most of them were

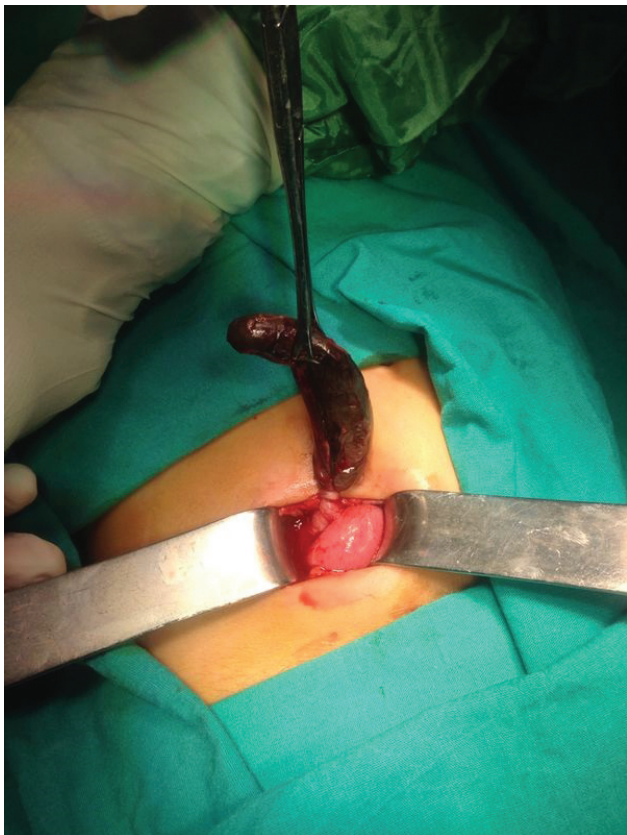


Figure 1. Ischemic appearance of the twisted appendix.

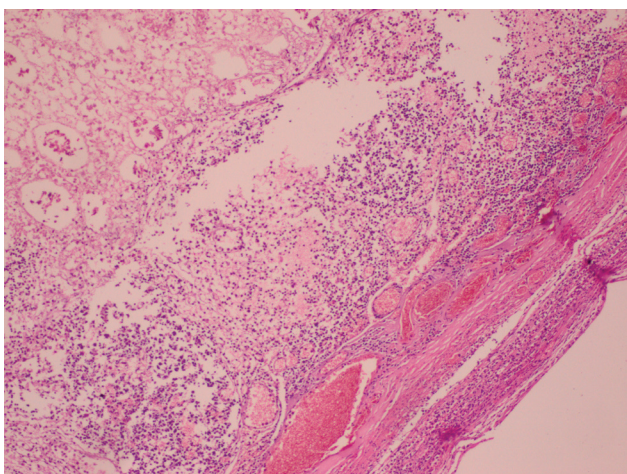


Figure 2. Histological examination showed ischemic infarct areas of the edematous appendix.

secondary torsions (lipomas, mucoceles)^{8,9}. In all cases the clinical condition was indistinguishable from acute appendicitis⁷. The site of the torsion is most frequently ≥ 1 cm away from the appendiceal basis. Even the direction of the rotation is most frequently anticlockwise¹⁰, in our case appendix was rotated clockwise direction. Malik¹¹ states that the infarcted appendix has a characteristic sonographic appearance as a hyperechoic non-compressible ovoid structure near the colonic wall.

The aetiology of the condition is uncertain. Merrett et al.¹² suggested several hypothesis to explain this event in their review letter. It is uncertain if the inflammation causes torsion of the appendix or vice versa.

CONCLUSION

Torsion and necrosis of the vermiform appendix is an extremely rare pathological entity in children and it is indistinguishable from acute appendicitis.

REFERENCES

1. Gopal K, Kumar S, Grewal H. Torsion of the vermiform appendix. *J Pediatr Surg* 2005;40:446-447. <http://dx.doi.org/10.1016/j.jpedsurg.2004.10.027>
2. Payne JE. A case of torsion of the appendix. *Br J Surg* 1918;6:327. <http://dx.doi.org/10.1002/bjs.1800062216>
3. Mohammad W, Azfar M. Torsion of the vermiform appendix: Report of a case and Review of the literature. *The Internet Journal of Surgery* 2007;17:2.
4. Christianakis E, Paschalidis N, Flippou G, Smailis D, Chorti M, Rizos S et al. Cecal epiploica appendix torsion in a female child mimicking acute appendicitis: a case report. *Cases Journal* 2009;2:8023. <http://dx.doi.org/10.1186/1757-1626-2-8023>
5. Bari S, Sheikh KA, Malik AA. Torsion of an epiploic appendix mimicking acute appendicitis. *Int J Surg* 2008;6:488-489. <http://dx.doi.org/10.1016/j.ijsu.2006.07.006>
6. Gilchrist BF. Torsion of the appendix. *Journal Pediatr Surg* 1995;30(6):901-902. [http://dx.doi.org/10.1016/0022-3468\(95\)90781-5](http://dx.doi.org/10.1016/0022-3468(95)90781-5)
7. Bestman TJR, Cleemput M, Detournay G. Torsion of the vermiform appendix: a case report. *Acta Chir Belg* 2006;106:228-229. <http://dx.doi.org/10.1080/00015458.2006.11679878>
8. Killam AR. An unusual cause of appendicitis: torsion produced by a mesoappendiceal lipoma. *Am Surg* 1969;35:684-689.
9. Legg NG. Rare cases of intestinal obstruction. Torsion complicating mucocele of the appendix. *JR Coll Surg Edinb* 1973;18:236.
10. Val-Bernai JF, Gonzalez-Vela C, Garijo MF. Primary acute torsion of the vermiform appendix. *Pediatr Pathol Lab Med* 1996;16:655-661. <http://dx.doi.org/10.1080/15513819609168701>
11. Malik KA. Torsion of an Epiploic Pretending as Acute Appendicitis. *Ommen Medical Journal* 2010;25(3):225-226.
12. Merrett ND, Lubowski DZ, King DW. Torsion of the vermiform appendix: a case report and review of the literature. *Aust J Surg* 1992;62:981-983. <http://dx.doi.org/10.1111/j.1445-2197.1992.tb07661.x>