

Case Report

A case of duplicated appendix in a patient presenting as acute appendicitis

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ABSTRACT

A 20 years old male patient presented to KHMC emergency room in the fifth of August 2015 with typical picture of acute appendicitis. Patient was admitted and decision for appendectomy was taken for the next two hours. Appendectomy done as usual through a small grid iron incision and a normally looking appendix removed which didn't explain what happened with patient earlier, so we decided to look for other pathologies (like meckel's diverticulum) and upon gently pulling out terminal ileum a second appendix shown in the field originated from ileocecal junction toward ileal mesenteric side 4 centimeter posterior to first appendix which was looking severely inflamed and was removed as usual.

Keywords: Appendicitis, Duplicated appendix, Duplication, Vermiform appendix

INTRODUCTION

Aim of the study was to report such a rare case (less than 100 cases around the world) and remind our surgeons of it when operating for acute appendicitis as it might go unnoticed intraoperatively. The appendix (or vermiform appendix) is a blind tube with a connection into the cecum, from which it develops embryologically. The cecum is a pouch-like structure of the colon, found at junction between small and the large bowels.

The human appendix averages 9 cm in length with maximum length of 20 cm and a diameter of usually between 7 and 8 mm. The longest appendix ever removed was 26 cm long in a patient from Zagreb, Croatia.¹ The appendix is usually located in the right iliac fossa. The base of the appendix is situated beneath the ileocecal valve by 2 cm at junction between the large and small intestine. And the base location is correspondent to McBurney's point at abdominal wall. The appendix is

connected to the mesentery in the lower region of the ileum (the mesoappendix).

Appendicitis is a condition characterized by inflammation of the appendix. Pain usually starts in the center of the abdomen, corresponding to the embryologic origin of appendix (midgut). This pain is a dull, poorly localized, visceral pain.²

As the inflammation progress, the pain starts to localize to the right iliac fossa, as the peritoneum becomes inflamed. This inflammation (peritonitis) results in rebound tenderness which presents at McBurney's point, 1/3 of the direct way between anterior superior iliac spine and umbilicus. Typically, point (skin) pain starts once the parietal peritoneum is inflamed. Fever (low grade) is also seen in appendicitis.

Appendicitis actually mandates excision of the inflamed appendix, in an appendectomy either by laparotomy or

laparoscopy. If untreated the appendix may perforate causing peritonitis, shock and if left untreated leads to death. To find two appendices in same patient as we did in this case report is extremely rare and there are less than 100 cases reported in literature all over the world.

CASE REPORT

A 20 years old male patient presented to KPMC emergency room in the fifth of August 2015 with typical picture of acute appendicitis. He was previously healthy with no previous surgeries till the evening of the day before admission when he developed suddenly a periumbilical pain with nausea and vomiting twice that lasted for three hours, then the pain shifted to suprapubic and right lower quadrant and localized there over the night.

Although the patient didn't receive any medications and tried to sleep that night but the pain awakened him many times but he didn't seek medical attention till morning.

Upon patient's arrival to our ER he was in pain putting his both hands at right iliac fossa trying to stop his pain. On examination he had low grade fever (temperature was 37.6°) with stable other vital signs, examination of abdomen revealed right iliac fossa tenderness, positive Rovsing's sign and positive rebound tenderness.

Laboratory investigations were as follows: WBC 14, PCV 42, and platelets 298. Urine analysis normal.

Abdominal ultrasound revealed minimal free fluid in right iliac fossa with positive probe tenderness. As the picture of patient was going with acute appendicitis there was no need for further investigation (CT scan etc.)

Patient was admitted and decision for appendectomy was taken for the next two hours. Appendectomy done as usual through a small grid iron incision and a normally looking appendix removed which didn't explain what happened with patient earlier. So we decided to look for other pathologies (like meckel's diverticulum) and upon gently pulling out terminal ileum a second appendix shown in the field originated from ileocecal junction toward ileal mesenteric side 4 centimeter posterior to first appendix which was looking severely inflamed & was removed as usual.

No Meckel's diverticulum, abdomen closed in layers.

Hospital course of the patient was smooth and discharged first day post-surgery. Two weeks after he visited our outpatient clinic for follow up. He was well, no complaints and having the histopathology report with him which revealed two appendices (specimen one normal appendix, specimen two acute severely inflamed appendix with serositis and fecolith inside).

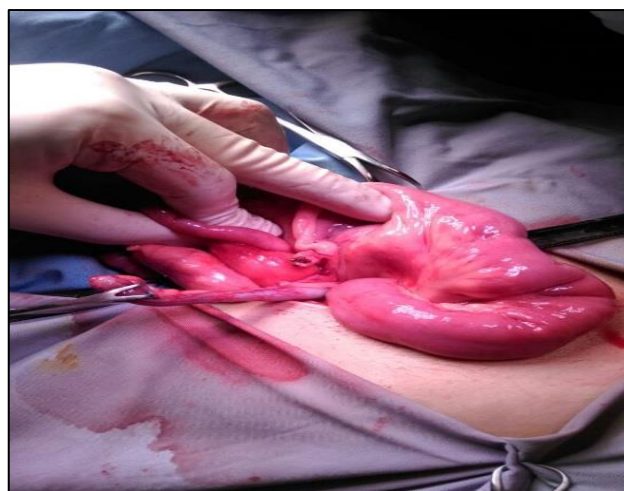


Figure 1: Intraoperative picture of stump of removed first appendix.

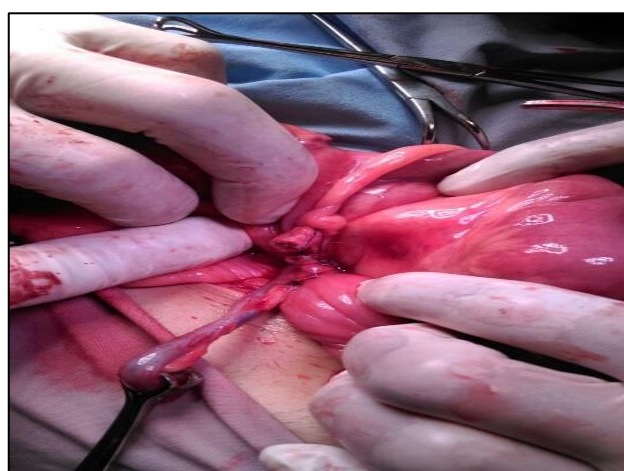


Figure 2: Intraoperative picture of stump of removed complete appendix.

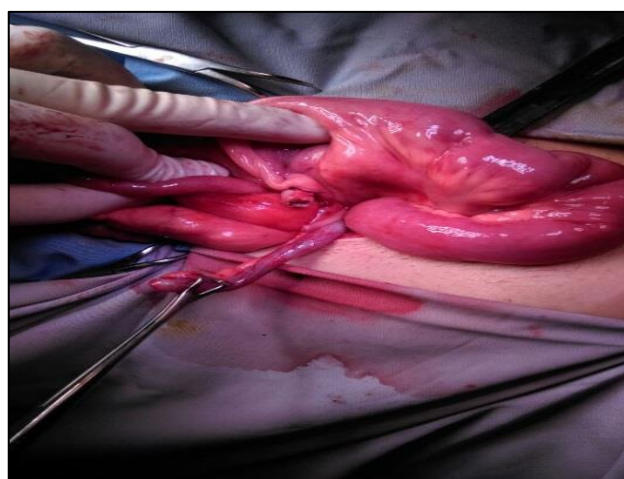


Figure 3: Intraoperative picture of stump of before excision.

DISCUSSION

Duplication of appendix is an anomaly that is rare and is usually discovered incidentally during surgery for appendicitis. Its incidence is 0.004% (1 in 25,000 patients with acute appendicitis). Even though duplication anomalies are uncommon they have clinical and medico-legal significance.³ It is also reported that a case in which a child had appendectomies performed twice in a 5 month period. The Cave-Wall bridge classification divides appendix duplications into three types:⁴

Type A

Single caecum with a normally localized appendix showing partial duplication

Type B

Single caecum with two complete appendices subdivided into two further subgroups

Type B1 ('bird-like type'): Two appendices located symmetrically on both sides of the ileocaecal valve, mimicking the normal arrangement in birds.

Type B2 ('taenia coli' type): One appendix originates from caecum at the typical site, and the second branches at varying distances along the taenia of first appendix.

Type C

Double caecum, each bearing its own appendix. Some authors have since described different types of complex presentation of the appendix (like "horseshoe appendix" and "triple appendix") that are diagnosed at surgery.⁵

When anomalies of the appendix are detected in childhood they are mostly associated with bowel, genital, urinary or bone anomalies, seen most often in conjunction with type B1 and C duplications.⁶ Possibilities to consider include: cecal diverticulum, appendicular diverticulosis and triple appendix.⁷

Duplication of appendix even though it is rare and its diagnosis preoperatively is difficult, it should be looked

for when operating for appendicitis to avoid serious clinical complications. And that is why surgeons should know about duplication of the appendix.⁸

Duplication of vermiform appendix is an extremely rare condition but should be taken into consideration when operating on acute appendicitis patient especially with an intraoperative normal looking appendix.

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