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Case Report

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A Case of Double Appendix Vermiformis

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ABSTRACT

The double appendix is an extremely rare condition. It can be overlooked by imaging methods. It is usually noticed as a result of abdominal exploration during surgery in cases operated for acute appendicitis. Both can be located close to each other in the cecum, or one can be in the cecum and the other anywhere in the gastrointestinal tract. Both may be inflamed at the same time, or one may be inflamed while the other may be normal. It is especially important in patients with appendectomy in the differential diagnosis, as it may cause a recurrent acute abdomen due to acute appendicitis. In this case report, it is aimed to share the clinical, laboratory, and radiological features of a case with a double appendix.

Keywords: Acute abdomen, appendicitis, diagnosis

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INTRODUCTION

Appendix duplication is a rare congenital anomaly. Its incidence has been reported as 1/25,000.[1] Approximately 100 case reports have been reported in the literature so far. Duplicated appendixes can be found in different localizations in the large intestine, and the modified Cave-Wallbridge classification is used to define the appendices according to each other and their location on the cecum. It is important for clinicians, especially in patients with appendectomy, as it can cause recurrent acute appendicitis and acute abdomen and can be overlooked by imaging methods. It is aimed to present a case with a double appendix after abdominal exploration in terms of its medical features in this case report.

CASE REPORT

A 25-year-old married female was admitted to an emergency department with a 2-day history of right lower quadrant pain, nausea, and vomiting. The patient had no complaints or medical disturbances previously. Physical examination revealed rigidity, rebound, tenderness, and pain in the right lower quadrant. Laboratory investigations including serum electrolyte levels and complete blood count were within normal limits, except for white blood cell count (13.000/mm^3) and C reactive protein (20 mg/L). Her standing abdominal X-ray was unremarkable. Abdominal ultrasonography examination revealed a blind-ended and non-compressible tubular structure with minimal interloop fluid in the right iliac fossa. No appendiceal anomaly or variations was noticed on ultrasonography. Her physical examination raised inflammatory markers and ultrasonography findings supported a diagnosis of acute appendicitis. McBurney incision was performed. During exploration, minimal inflammatory fluid was noted. A double appendix apart from each other was discovered. Two separate appendices with two separate bases are shown in Figure 1. The mesoappendixes including appendicular arteries

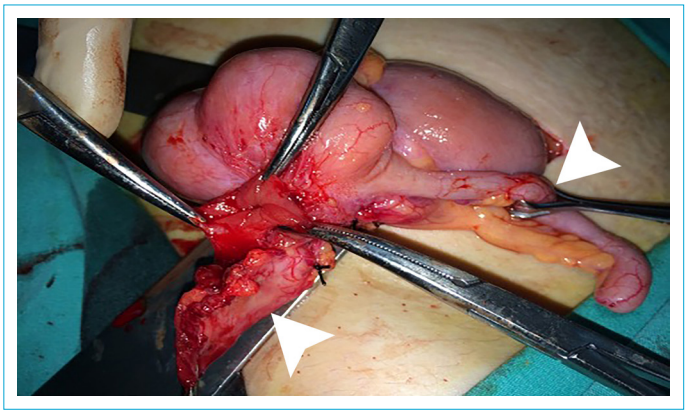

Figure 1. White arrows pointing to both appendixes.

separated. One appendix with features of acute appendicitis and the other appendix were of normal appearance. A routine appendectomy procedure was performed for each appendix. The post-operative period was uneventful. The patient was discharged on 2nd post-operative day.

DISCUSSION

The appendix has some variations and congenital anomalies, such as other organs and vascular structures.[2] These can be defined as appendix agenesis, duplication, and abnormal localization. Appendix duplication is an extremely rare condition. Although the pathogenesis has not been fully explained, some hypotheses have been proposed. Split notochord theory, the formation of the median septum, normal regression of the embryonic diverticulum, and the partial mating procedure are some of the hypotheses.[3-5] It is separated from the cecum diverticulum by the presence of the longitudinal muscle layer of the appendix and surrounding lymph tissue. Autoamputation caused by the inflammatory process and implantation of the amputated appendix close to the cecum is defined as pseudo duplication. Appendix duplication is usually detected incidentally during surgery or confirmed by histopathological analysis during postmortem examinations. It is rarely detected during contrast-enhanced examinations of the gastrointestinal tract. Appendix duplication may also be encountered in special clinical presentations such as mechanical intestinal obstruction, appendiceal cancer, and recurrent intestinal intussusception. In its differential diagnosis, it is necessary to consider cecum diverticulum, stump appendicitis, pseudo duplication, epiploic appendicitis, ascending colon malignancies, inflammatory bowel disease, genitourinary pathologies, and acute mesenteric lymphadenitis. The modified Cave-Wallbridge classification system is used in the definition.[1] In this classification, whether the cecum is single or double, whether the appendix is partially or completely duplicated, and other anomalies related to the number of holes drilled into the cecum are evaluated and classified accordingly.

CONCLUSION

The double appendix is a rare anomaly and it is difficult to detect radiologically. When appendix duplication is overlooked in appendectomy cases, it can cause serious life-threatening complications and medicolegal problems. Although it is rare, it should be kept in mind that appendix duplication may occur in cases with acute appendicitis, and more care should be taken in cecum exploration during appendectomy.

Disclosures

Informed Consent: Written informed consent was obtained from the patient for the publication of the case report and the accompanying images.

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