

# Type B2 Appendiceal Duplication with Appendicitis: A Case Report

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## Abstract

Although rare, anomalies of the appendix do occur and may have serious clinical and medicolegal implications. Fewer than 100 cases have been reported in the literature 1, 2. Collins found only 2 in 50,000 appendices, or 0.004 percent 3. This is a case of cecal appendiceal duplication with both appendices showing inflammation on pathologic exam.

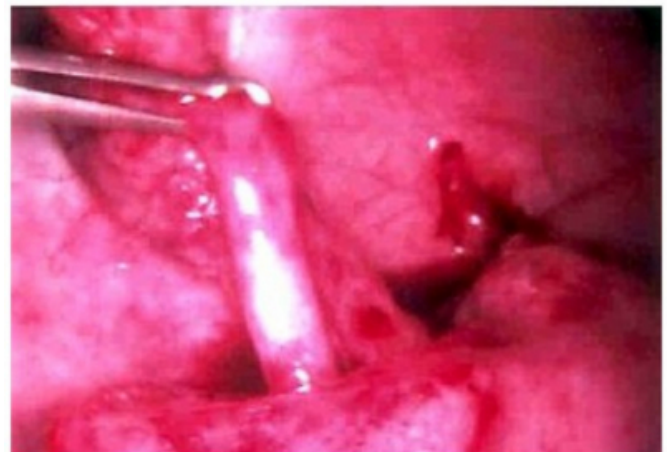
## CASE REPORT

A twelve-year-old male presented to the emergency room with a 36-hour history of periumbilical and right lower quadrant (RLQ) abdominal pain and anorexia. The patient's white blood count (WBC) and differential were within normal limits and his abdominal films were unremarkable. The physical exam was significant for guarding and rebound tenderness in the RLQ.

The patient was taken to the operating room for diagnostic laparoscopy and laparoscopic appendectomy. At that time, two cecal appendices were noted (Figure 1, Figure 2), both of which showed signs of inflammation without evidence of perforation or abscess. Laparoscopic appendectomies were performed without difficulty. The patient did well postoperatively and was discharged home the following morning. The final pathology report revealed acute appendicitis for both appendices.

## Figure 1

Figure 1: Appendix arising from tenia of cecum laterally, inflamed.



## Figure 2

Figure 2: Periappendicitis



## DISCUSSION

Appendiceal anomalies include agenesis, duplication, triplication, anomalous location of a single appendix, and a more recently described horseshoe anomaly of the appendix<sup>4</sup>. These anomalies are rare, with only a single reported case of appendiceal triplication and a .004% incidence of appendiceal duplication<sup>5,6</sup>. These anomalies are thought to result from the persistence of a normally transient embryologic second cecal appendix.

The classification system for appendiceal duplications was first developed by Cave in 1936<sup>7</sup>, then modified by Wallbridge in 1963<sup>8</sup> and finally by Biermann in 1993<sup>9</sup>. This system classifies three types of appendiceal duplications; A, B, and C. Type A occurs when two appendices arise from a common base and is not associated with other congenital anomalies. Type B has four subtypes and involves one appendix in the normal location with a second appendix at another site. In type B1 the second appendix is located on the cecum just superior to the ileocecal valve, in type B2 the second appendix is located on one of the tenia of the cecum. The second appendix is located along the tenia of the hepatic flexure of the colon in type B3 and type B4 the location of the second appendix is located along the tenia of the splenic flexure. Type C involves duplication of the cecum, with each cecum bearing an appendix. Types B and C can be associated with other gastrointestinal and genitourinary

anomalies<sup>10,11</sup>. The recently described horseshoe anomaly of the appendix might be considered a type D anomaly<sup>4</sup>.

This patient had a type B2 appendiceal duplication and represents only the third reported case of appendiceal duplication in which both appendices were found to be inflamed<sup>12</sup>. The clinician must be aware of and look for the possibility of an appendiceal anomaly when evaluating a patient with abdominal pain; a missed second appendix may have medicolegal implications. Litigation has arisen from replication of an appendectomy<sup>11</sup> and should be consideration with each procedure performed.

## CORRESPONDENCE TO

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