CASE REPORT

Acute suppurative inflammation in dual appendix

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Introduction

Even though appendicitis is a common entity in surgical practice, the incidence of the dual appendix is rare which ranges from 0.004%-0.009% [1]. The dual appendix is an incidental finding intraoperatively which makes surgeon evaluate any associated anomaly. We present a case of a young boy with suppurative inflammation of dual appendix in a single presentation.

Case presentation

An 11-year-old boy presented to surgical casualty ward with right iliac fossa pain over three days duration. The boy was well 3 days back and developed central colicky abdominal pain for the one-day duration which shifted to the right lower abdomen and accompanying nausea and vomiting. There was no history of fever. On examination, found rebound tenderness over right iliac fossa while supportive investigations revealed elevated WBC (13.7) and neutrophilic leukocytosis (77%) and elevated CRP (11.8) and ultrasonography revealed acute appendicitis with significant right iliac fossa inflammation. Patient underwent laparotomy with Lanz incision and found dual appendix with two separate bases 2cm apart in anterior taeniae coli and convergence of taeniae coli respectively (Figure 1a). Appendices were sent for histology and confirmed acute suppurative inflammation of both vermiform appendices. The boy was discharged on a postoperative day 2 without any complications.

Discussion

The appendix has many variations in their position and anatomy with rarely duplication and agenesis noted in the literature. Even though embryogenesis of the appendix is well known, the incidence of appendiceal duplication is not clear, ranging from 0.004%-0.009% [1].

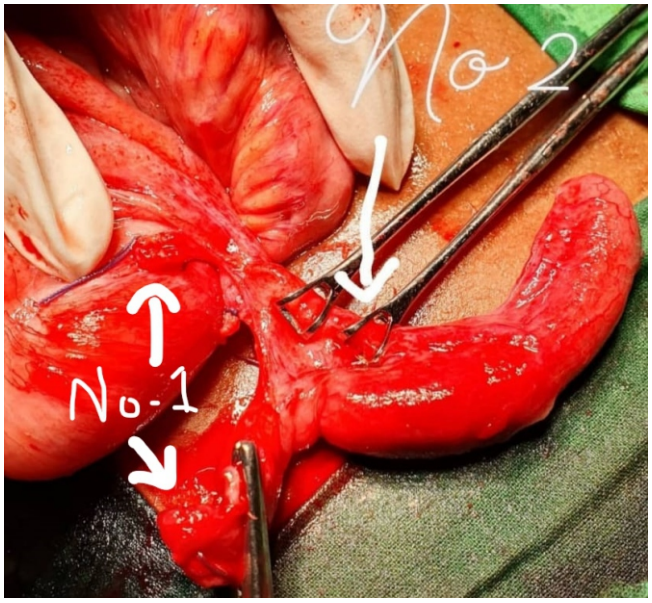
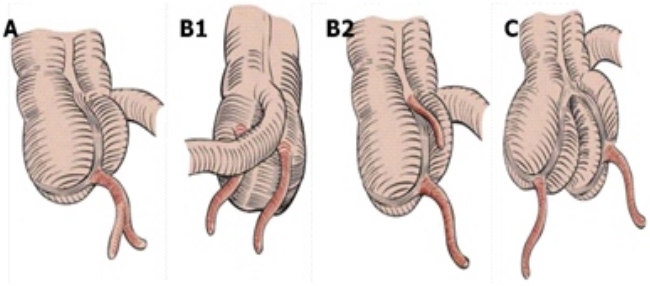


Figure 1a. Inflamed dual appendix with short mesentery and one appendix ligated and divided noted as No-1



The Cave Wall bridge classification [2].

Type A: Normally situated single appendix with partial duplication

Type B: two appendices on separate location on single caecum. Further subdivided to

Type B1: Appendices positioned on both side of the ileocaecal valve,

Type B2: First appendix located on convergence of tenia coli as usual position with another appendix located on tenia coli at varying distance

Type C: Dual caecum with its appendix.

Type B2 variety of appendix duplication anomaly was found in our case according to Cave-Wall bridge classification. It is

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the commonest variety of duplication of the appendix [3]. In our patient, both appendices were inflamed and histologically proven suppurative inflammation on both appendices. The type B2 replication may be the vestige of a "transient appendix" which appears during the sixth and seventh week of embryological development according to most authors belief [5]. Most of the instances, other congenital anomalies are associated with type B1 and C [1]. Although duplication of the appendix may be related with other congenital anomalies, there were no other anomalies found in our case. Even In type B2, easy identification of both appendices is possible when their origin is close to each other, and if not retrocaecal. It could have led to lethal consequences [5] when 2nd appendix was retrocaecal or far away from 1st appendix. As the position of the appendix was preileal and duplicated appendices were close by, patient got the benefit of dual appendicectomy at the same occasion. In the previous case reports the patient had undergone appendicectomy on two occasions which can give rise to significant morbidity and mortality[3]. In selected cases, the caecum should be carefully examined for appendices anomalies [4]. To the best of our knowledge, this is the 1st case reported from Sri Lanka.

Conclusion

Duplication of appendix occurs rarely. Imaging modalities will not usually reveal the duplication. Intraoperative vigilance is necessary to ensure the diagnosis of the dual appendix. Histological appearance of the macroscopic and microscopic view is pathognomonic. The surgeon should have a suspicion of dual appendix when clinical and biochemical evidence does not correlate with 1st appendix. Detection of both appendeces on the same occasion will reduce morbidity and mortality.

All authors disclose no conflict of interest. The study was conducted in accordance with the ethical standards of the relevant institutional or national ethics committee and the Helsinki Declaration of 1975, as revised in 2000.

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Learning Points:

- During appendectomy, caecum should be inspected on selected cases when clinical and intraoperative findings do not correlate.
- Even though dual appendix is rare, it can give rise to lethal and medico-legal consequences.
- It may be associated with other congenital malformations.