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Missing Mesoappendix - a rare case

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ABSTRACT

We hereby report a case of inflamed appendix with absence of mesoappendix throughout the appendix. This, to the best of our knowledge is the first case reported after going through the literature and statistics of India.

Background

The cases without mesoappendix were reported from cadavers. No mesentery was attached in 16 cases of boston study (*Boston medical and surgical journal Vol. cxlvii no.22 (1902)*). One case was reported in Nigeria (*General hospital Ikorodu Lagos Nigeria*).

Key words: Mesoappendix, vermiform appendix, appendicitis, India.

1. INTRODUCTION

The appendix is a caecal diverticulum which appears at the 8th week of intra uterine life along with the mesoappendix and increases rapidly in length which at birth is a long blind tube. The appendix has short mesentery called the mesoappendix (Sinnatamby, 1999, pp249-50). The mesoappendix is a triangular peritoneal fold (Last's Anatomy, 10th ed, Chummy S. Sinnatamby, pg 228) which invests the entire appendix and is derived from the posterior layer of the mesentery of the ileum. Appendix is connected by a short mesoappendix to the lower part of ileal mesentery (Cunningham's Manual of Practical Anatomy 15th ed , vol 2, pg 142). The mesentery of vermiform appendix hangs from the terminal part of ileum. The mesentery of the appendix extends almost to the appendicular tip along the

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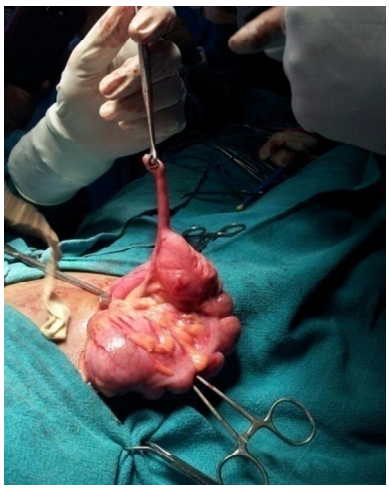

Figure 1

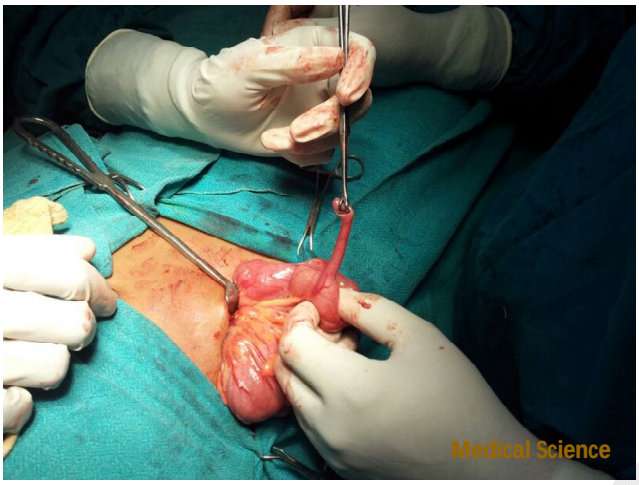

Figure 2

whole length of appendix. A small fold of peritoneum extends from the terminal ileum to the front of the mesoappendix called the ileocaecal fold or blood less fold of Treveres, although, sometimes it may contain blood vessels. The space between it and mesoappendix is the inferior ileocaecal recess. Another fold lies in front of the terminal ileum, between the base of the mesentery and the anterior wall of the caecum. The fold is raised by the contained anterior caecal artery and is called the vascular fold of recess. The space behind it is the superior ileocaecal recess. The mesoappendix has a free border which carries the blood supply to the organ. Failure of the mesoappendix to reach the tip probably reduces the vascularisation of the tip of the appendix makes it liable to become gangrenous and hence early perforation occurs during inflammation. In childhood, the mesoappendix is so transparent that the contained blood vessels can be easily seen. In many adults it is laden with fat, which obscures the vessels as it encloses these blood vessels, lymphatics, nerves and a single lymph node (Schwartz 1998, p. 1383-93). The extent of mesoappendix is not related to age, height and weight of the person (Snell 2004. P.215 –7).

2. CASE REPORT

14 years old Indian boy presented to the casualty with complaints of generalised pain abdomen and pain in the right iliac fossa since 2days. Vomiting and Fever since 1 day, tenderness in the right iliac fossa, voluntary guarding present, but no rigidity. WBC count was 16000cells/cu. mm, ultrasound abdomen –probe tenderness in the right iliac fossa, however the appendix was not visualised. Alvarado score was 6. After examination and the clinical data available, appendicectomy planned. Grid iron incision was taken, abdomen was opened in layers and searched for appendix. The mesoappendix was absent throughout the length of the appendix and the appendicular artery was lying directly over the wall of the appendix, there was no space to separate the artery from the appendix. Hence transfixation ligature was applied at the base of the appendix and appendicectomy was done. Terminal ileum was searched for any associated pathology like Meckel's diverticulum, there was no finding. Wound closed in layers. The specimen sent for histopathology. Post operative period was uneventful and patient discharged after 7 days.

3. DISCUSSION

The appendix is a caecal diverticulum which appears at 8th week of intrauterine life and increases rapidly in length, so that at birth it is a long blind tube (Sabiston Textbook of Surgery, Chapter 47 pg 1381). Meso appendix appears at 8th week of intrauterine life and its extension occurs after birth by differential growth of the caecum (Ross 2005. P. 528-574). The appendix is usually located at the junction of the taeniae, found on the surface of the caecum. Its length varies from 2-20 cms, with an average length of 9cms. The appendix is connected by a short mesoappendix to the lower part of illeal mesentery (Gray's Anatomy, pg 281). This fold is triangular, extending almost to the appendicular tip (Bailey & Love's Short Practice of Surgery, 26th ed, page 1199-200). The mesoappendix has a free border which carries the blood supply to the organ, by the appendicular artery a branch from the illeocolic artery (Essentials of Human Anatomy, A.K. Dutta, 9th edition, pg 220, Clinical Anatomy by Regions, 9th ed , pg 182). The extent of this mesentry varies considerably with age and sex. Failure of mesoappendix to reach the tip reduces vascularisation of the tip of the appendix predisposing it to gangrene and early perforation due to inflammation (Das S. A concise Text book of surgery. 1st ed. Calcutta; S.D. Publishers; 1996). During appendectomy we found that the appendix was completely devoid of mesoappendix and the appendicular artery was attached to the appendix (Figures 1, 2).

4. CONSENT

Written and informed consent was obtained from the patient's parents for publication of this case and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief, of this journal.

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5. CONCLUSION

In our case appendix was completely devoid of mesoappendix which was very rare and in India this is the first case to be reported to the best of my knowledge after going through the literature.

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