CASE REPORT OPEN ACCESS

What to do Next When Appendix is Found "Normal Looking" at Appendectomy? A Case Report

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ABSTRACT

Acute appendicitis, though a frequently encountered surgical emergency, still poses number of challenges for the treating surgeons. This report describes an 11-year old boy in whom a normal appendix was removed at surgery for right lower quadrant abdominal pain. However, in postoperative period patient developed intestinal obstruction due to Meckel's band. Patient was operated in our hospital where Meckel's diverticulum along-with the band attached with the umbilicus compressing a loop of ileum, was removed. Patient was discharged after smooth recovery. An early diagnosis and surgery are emphasized when signs of intestinal obstruction persist after negative appendectomy. A thorough search for other pathology must be done when appendix is found normal.

Key words *Negative appendectomy, Meckel's band, Intestinal obstruction, Laparotomy, Meckel's diverticulum, Child.*

INTRODUCTION:

Acute appendicitis is a common surgical emergency in pediatric population.[1] A gradual decline in negative appendectomy rate is reported in recent decades.[2] However, many studies still report around 10% negative appendectomy rate at exploration.[3] Missing other pathologies during surgery when appendix is found normal is less often reported. In this case report we describe a patient whose normal appendix was removed at surgery done for presumed acute appendicitis. He was explored again for intestinal obstruction.

CASE REPORT:

An 11-year-old boy presented with severe abdominal pain, bilious vomiting and non-passage of stool for seven days after initial surgery done for suspected acute appendicitis elsewhere. According to the parents doctors informed them that appendix was found normal at operation. However, appendix was removed. No further operative details were told to them. In postoperative period child developed bilious vomiting, colicky abdominal pain and gradual abdominal distension. The treating surgeons continued with conservative management. However, the condition of the patient kept deteriorating. On 4th postoperative day, x-ray abdomen was done that showed a pattern of mechanical intestinal obstruction (Fig. I). Family was counseled for re-exploration surgery to which they did not agree and left the hospital against medical advice. The child was taken to another tertiary care hospital in Karachi on 5th postoperative day where a trial of oral feed was given but bilious vomiting persisted. Finally, the patient was brought to Emergency Room of our hospital on 6th postoperative day..

On examination the patient was hemodynamically stable. A nasogastric tube was in place with 100ml bilious fluid in collection bag. Abdomen of the patient was grossly distended with visible bowel loops, a pattern reflective of mechanical obstruction. There was a 3-cm incisional wound at McBurney's point with interrupted sutures in place. Surgical wound appeared healthy. Patient was investigated and blood samples were sent for CBC, serum urea/creatinine and electrolytes. A missed pathology, most likely related to the remnant of Meckel's diverticulum was suspected as a cause of intestinal obstruction. Family was counseled about the laparotomy. The procedure was done through a right supra-umbilical transverse incision.

On opening the peritoneal cavity reactionary fluid

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Fig. I: X ray abdomen showing multiple air fluid levels suggestive of mechanical intestinal obstruction.

came out. Dilated but otherwise well perfused loop of proximal ileum was found compressed by a band that extended from an elongated Meckel's diverticulum with a wide base, to the umbilicus (Fig. II & III). The band was divided to release the compressed ileal loop. Resection of the Meckel's band along-with the diverticulum was done and ileal continuity restored with an end-to-end anastomosis. The appendicular stump and adjacent cecum were found unremarkable. Postoperative course remained uneventful and patient was discharged on 5th postoperative day after complete recovery.

DISCUSSION:

This case report highlights the importance of preoperative assessment of acute abdominal pain as well as appropriate use of diagnostic aid to avoid negative appendectomy and importance of exploring abdomen when appendix is found grossly normal looking. There is a definite morbidity associated with negative appendectomy. The unnecessary removal of the appendix, a potentially important organ is often contemplated which further complicates the situation.[4] In our patient a normal looking appendix was removed. Should all appendices be removed if there are no abnormal findings at surgery for acute appendicitis, remains a controversial issue? In a study it was suggested that appendix may be retained especially when laparoscopic approach is used.[5] However, some surgeons prefer to remove appendix when no other pathology is found.[6] In this context importance of histopathological examination of the removed appendix also plays a role. Only when no features of inflammation found a term negative appendectomy be used.[2]

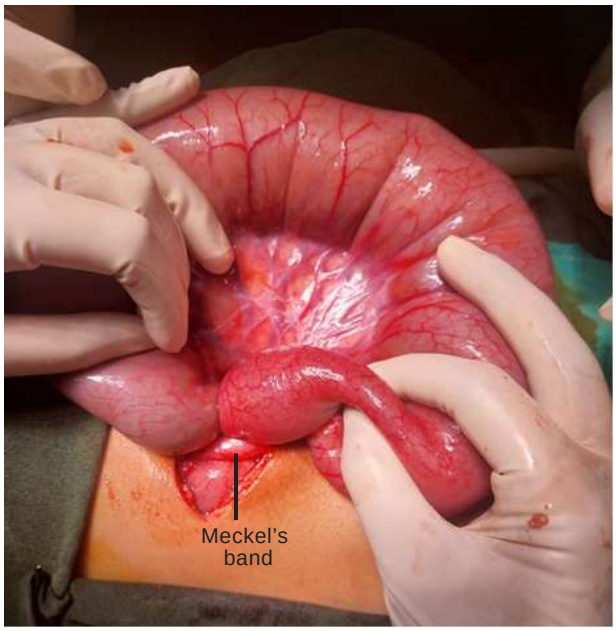

Fig. II: Ileal Loop compressed by the Meckel's band.

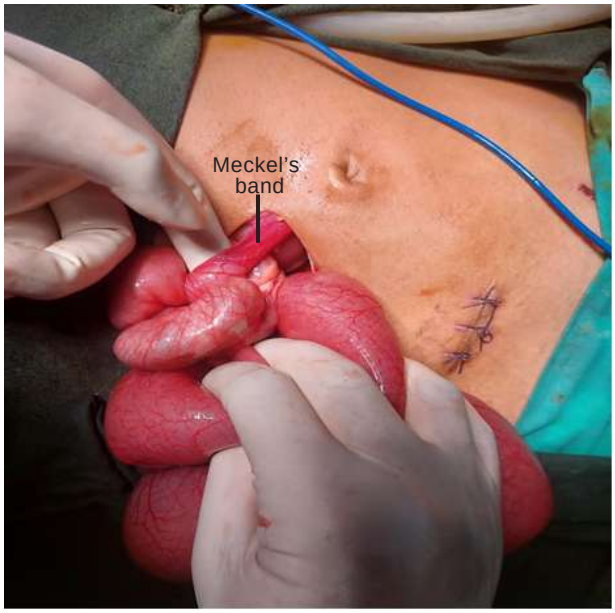

Fig. III: Meckel's band after reduction of the compressed loop. Surgical wound of previously done appendectomy is also visible.

The second important issue is how complete the exploration of abdominal cavity should be undertaken when appendix is found normal. This may be looked in the context of a small incision that is usually made for appendectomy in right lower quadrant. In our patient the primary surgeon missed the Meckel's diverticulum and its attachment with the umbilicus which is an important differential diagnosis in male patients with right lower quadrant abdominal pain.[7]

Missing another pathology was preventable if incision was extended and a thorough examination of small bowel done.

Third issue related to the case under discussion is for how long to wait before decision for re-exploration is made. In index case patient never recovered fully, in fact child deteriorated in postoperative period. As there were no signs of intra-abdominal inflammation at primary surgery it was not appropriate to consider early adhesions between bowel loops. X ray abdomen was advised late in the course of illness by the primary surgeons and a cut-off sign in the background of colics with bilious aspirate were the indications of a prompt laparotomy.

The most important and less addressed issue was informing the family about the condition of the patient in lay person language and updating at regular interval that creates a trust and understanding on the part of the parents. In this case family left the hospital of their own that shows ineffective communication. Studies have provided evidence that shared decision making by treating physicians, parents and pediatric patients must be emphasized.[8] A proper and timely referral at the request of the family should not be considered a negative development.

CONCLUSION:

The case highlights the importance of proper clinical examination, investigations and use of surgical skills. Keeping a high index of suspicion of another pathology when patient does not improve after negative appendectomy is important. Appropriate parental counseling with early re exploration is therefore emphasized.

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