Appendicular Evisceration Via Drain Site - an Unusual Complication in a Child

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ABSTRACT

Introduction: Abdominal drains have been used to prevent the accumulation and to characterize the drained fluid (blood, pus and infected fluids). However, these drains themselves are also not without complications namely; a source of infections, can induce anastomotic leakage, may cause damage by mechanical pressure and on drain withdrawal there is a potential pathway for evisceration of intraabdominal organs.

Case report: Here authors are presenting a rare complication of abdominal drain wherein the evisceration of appendicular tip occurred via the drain site and it was successfully managed by abdominal exploration and appendicectomy.

Conclusion: Judicious use of abdominal drain should be done in children so as to minimize the post operative complications.

Keywords: Drain; complications; herniation

INTRODUCTION

Prophylactic drainage following routine abdominal surgery continues to be a controversial subject. Thedictum 'when in doubt, drain', from Lawson Tait, is well known to most surgeons. The putting of abdominal drain becomes necessary in intestinal surgeries more so of colon because of faecal contamination of the peritoneal cavity and wound area. The purpose of this drainage is to minimize the source of intra abdominal infection and to detect the anastomotic complications as well as leaving a potential tract for any left over collections to drain following removal of these drains.[1,2] However, these drains themselves are also not without complications namely; a source of infections, can induce anastomotic leakage, may cause damage by mechanical pressure and on drain withdrawal there is a potential pathway for evisceration of intra abdominal organs. The evisceration of various organs like intestinal loops or fallopian tube has been commonly reported in adults but it is rarely seen in children. In the present report the authors are describing a rare complication of abdominal drain in a child who underwent colocolic anastomosis.

CASE REPORT

A nine month male child was admitted in Paediatric Surgery ward for closure of divided sigmoid colostomy which was created in the neonatal period because the baby was born with an anorectal anomaly and absence of anal opening. This anorectal anomaly was corrected at six months of age by a posterior sagittal approach and a neoanus was created and the colostomy stoma was left as such. Now at the present admission the child was operated under general anaesthesia for closure of colostomy stoma. The operative procedure consisted of colocolic anastomosis and a pelvic drain of size 22 FG was put in which was taken out via the right flank and the abdominal wound was closed. On third postoperative day the drain was removed and child started passing stool through the neoanal opening. However on fifth day patient had distension abdomen and examination revealed a loop of gut seen coming out via the drain site (Figure-1). Then exploratory laparotomy was done by right transverse incision and the herniated organ was the distal half of appendix (Figure-2) and rest of abdominal viscera were normal and colocolic anastomosis was intact. The appendicectomy was done and abdomen was closed. Patient had smooth postoperative outcome and histopathological examination of the appendix revealed mild inflammation.

DISCUSSION

Hippocrates first reported the usage of an abdominal drain in the case of a gallbladder empyema and are used in surgical practice since then. They are of two types; open and closed. Open drains are corrugated rubber or plastic sheets but their use is uncommon now a days because of higher rates of infection. Closed drains consist of tubes of inert material draining into a bag or bottle.[1-3]

The drains are also not without complications which can be drain site infection, mechanical bowel obstruction or even erosion of adjacent tissues and rarely evisceration of intra abdominal organs.[4]

Evisceration of intra abdominal organs via the drain hole has been reported as a rare complication of tube drain and there can be herniation of intestine, appendix, omentum, gall bladder, and ovary from surgical drain site.[5-9] The mechanism of evisceration is not clearly understood but in adult patients the complication is usually associated with predisposing factors which include the recurrent increase in intra-abdominal pressure caused by coughing or straining, prolonged surgery, poor nutrition, wound infection, obesity, and steroid use.[10] Furthermore, all had stab incisions for drains which had external diameters of more than 1 cm are more likely to develop complication. But in children the drain complications are being rarely reported either because of less usage of drains or small caliber of the drain itself. In the present case although the drain was of 20 FG size but the appendix might have been invaded the side hole of the drain and it got eviscerated while pulling it out.

The drains should be removed once the drainage has stopped or alternatively these can be gradually withdrawn over a few days allowing the drain site to heal gradually. Moreover the risk of this complication would-be minimized by the use of smaller

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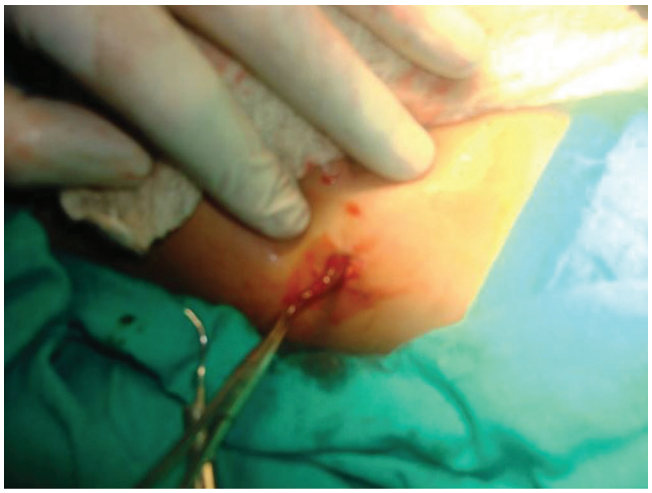

Figure-1: Clinical photograph showing eviscerated tip of appendix.

Figure-2: Operative photograph showing the ischaemic changes of tip and a portion of body of appendix.

bore drainage systems. Also while inserting the drain if a stab incision is to be made, it should be made obliquely and not reach the peritoneum so that the latter is stretched as the drain is inserted.

Is there any need for putting a drain into abdominal cavity following surgery ? It is difficult to find the answer in literature. The use of prophylactic abdominal drain is controversial and is of limited use even in complicated appendicitis in the modern era of antibiotics.[8] With other abdominal surgical procedures, it has been suggested that drainage of the peritonealcavity is 'physically and physiologically impossible because of adhesion formation between loops of small intestine with encapsulation of the drain. Lennox argues that drains do not fulfil their anticipated function and that the peritoneal cavity has enough absorptive capacity for any accumulating fluids, including blood, pus or inflammatory exudate.

CONCLUSION

To Conclude the drain complications are rare in children but usage of drains should be minimized and whenever it is to be used the size of drain should be small and the side holes be kept minimum because these holes are the potential space for tissue entanglement and evisceration of intra abdominal organs in children.

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