



ORIGINAL RESEARCH PAPER

Surgery

PAEDIATRIC VENTRAL WALL HERNIA WITH RECURRENT INGUINAL HERNIA REPAIR - A CASE REPORT ON RARE ENTITY

KEY WORDS:

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ABSTRACT

There are various aetiological factors causing hernia in children which includes mechanical strain, prior surgical intervention, abnormal embryogenic development, raised intra- abdominal pressure due to intra-abdominal pathology, collagen deficiency syndrome.

As per literature, the most common for ventral hernias is previous abdominal surgery with an incidence between 3 % to 11 % but hernias due to congenital collagen deficiency syndromes are very rare and very few cases have been reported till date. Hereditary conditions with ventral hernia presentations in siblings with high mortality are also very rarely reported.

Herewith presenting a rare case of congenital ventral hernia with recurrence of right inguinal hernia postoperative in 3-year-old baby boy with previous two siblings died with same presentations at 4 months and 6 months of age.

INTRODUCTION:-

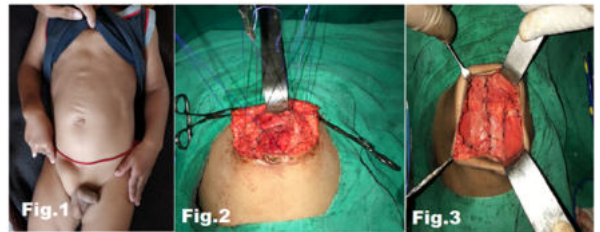
The abdominal wall helps in maintaining position during changes in gravitational forces and increased intra-abdominal pressure. Also, it helps to protect visceral organs and prevents protrusion of intra-abdominal contents.

Anatomical separation of both rectus muscles by a distance greater than expected is called as Diastasis recti. It is originating secondary to the reduced consistency of the intercrossed fibers that forms linea alba, leading to separation of both aponeurosis of the rectus abdominis muscles. The reduced consistency of these fibers may be congenital due to collagen deficiency syndrome etc. and acquired like in pregnancy, obesity or previous abdominal surgery. Clinically it may present as an aesthetic as well as symptomatic problems. It may produce malfunction of abdominal wall muscles due to associated muscular imbalance and chronic backache (1,2). Different techniques have been proposed for the treatment of deformities caused by laxity of the abdominal wall musculature, with plication of the anterior rectus sheath being the most commonly used technique (3-12). Efforts should be made to reduce the complications related to procedure such as intra muscular bleeding, over riding of the muscles, post-operative respiratory distress due to pressure on diaphragm, basal lung atelectasis in immediate post-operative period. After repair of the diastasis recti with large gap, the suture site is exposed to excess tension due to increased intra-abdominal pressure secondary to contraction of wound and mobilised muscle tissues (13). So, the technique that provides a tension relieving correction of abdominal wall is highly desirable in abdominoplasty. No prospective studies were found comparing the operative efficacy of the two-layer plication technique with those of the single-layer plication technique.

CASE REPORT

Herewith presenting a case of 3 years old baby boy brought with complaints of huge ventral hernia and right-side inguinal hernia since birth (Fig.1). Right inguinal hernia got recurred immediately after surgery in 1 month. Previous history of two male siblings died due to pneumonia with huge ventral hernia at 6 months and 4 months of age respectively. Clinically Baby was examined thoroughly and hematological along with radiological work up was done. On per abdomen examination there was huge gap between recti muscles. Also, on right side inguinal reducible hernia with bowel as content was present. On ultrasonography abdomen above findings were confirmed. Chest x ray was within normal limits. Surgical intervention was planned. Under complete general anesthesia with epidural catheter insertion for post-operative pain management, infra umbilical transverse skin incision was taken. Skin flaps raised on either side. Margins of rectus sheath were identified. Abdominal wall dissection done in layers identifying anterior rectus sheath, recti muscles

margins and posterior rectus sheath on both sides of the defect without opening the peritoneum with medial advancement of rectus sheath. Proline suture is used to approximate both free margins of recti muscles in layered fashion separately taking care to avoid excessive tension on suture line (Fig.2 & 3). Also, while closing the ventral abdominal defect continuous intraoperative monitoring was done on respiratory pressures secondary to diaphragmatic pressure during closure. Abdominal wound was closed in layers. Separate incision was taken on right side inguinal crease for recurrent right side inguinal hernia. Right side inguinal canal explored. Hernial sac identified and classical right inguinal herniotomy was performed. Compression dressing was given over abdomen. At the end of surgery, after giving epidural top up analgesia baby was extubated and shifted to Intensive care unit for monitoring. Postoperative recovery was uneventful and baby was discharged on post-operative day 5. On routine follow up baby is absolutely doing well till date without any tension on repair and no respiratory complaints (Fig.4 & 5).



DISCUSSION

Ventral hernias in paediatric age groups are very rare. Etiological factors are unknown in paediatric age group. Reduced collagen synthesis may be directly related to the function of the N-propeptide of collagen I. Pathologic changes may not be solely attributed to pathologic collagen fibers, but also to the role of elastic fibers. Multimodal approach, high

suspicious attitude after detailed past history and anticipation of postoperative complications are very important. Abdominoplasty has a high incidence of thromboembolic events compared to other aesthetic surgical procedures. Several factors associated with abdominoplasty, including increased intra-abdominal pressure caused by plication of the rectus sheath, Fowler's position, and use of compression garments may lead to increased venous stasis in the common femoral vein, increasing the risk of deep venous thrombosis (14-16). Diastasis recurrence is due to abdominal tension which corresponds to a tensile force on the aponeurosis opposed to the force applied for joining the edges of the rectus abdominis muscles. That is why force required to bring the anterior rectus sheath to the midline is measured on the supraumbilical and infraumbilical levels which prevents the pressures on diaphragm postoperative and secondary basal lung atelectasis. Congenital diastasis is a rare condition that occurs from 5% to 7% in patients who seek abdominoplasty (17). It is important to note that cases of congenital diastasis of the rectus abdominis muscle should not be treated with plication of the anterior rectus sheath (18). In these cases, patients show lateral insertion of the rectus abdominis muscles in the costal margin and the medial advancement of the rectus sheath is indicated to prevent diastasis recurrence, (19) regardless of the suture technique used.

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