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# Laparoscopic Approach to the Management of Rectal Prolapse in Children—A Case Report

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Complete rectal prolapse or procidentia denotes a full-thickness eversion of the rectal wall through the anal canal. The authors present the case of a 12-year old boy who had presented with chronic rectal prolapse, which was successfully repaired laparoscopically.

Key Words : Rectal prolapse, laparoscopy, children.

Rectal prolapse plagued mankind and challenged physicians since ancient times. The earliest clinical case of rectal prolapse was identified in a male mummy from Antinoe, Egypt (400 to 500 B.C.).<sup>1</sup> A Biblical description of a disease that caused "bowels to fall out by reason of the sickness day by day" is testimony to the ancient history of this affliction. As surgeons' understanding of pelvic floor, colorectal and anal anatomy improved, so did the operative procedures devised to treat prolapse. The approaches for these procedures usually are transabdominal or transperineal. Perineal prodcedures are less invasive and can be performed under local or regional anesthesia, but have poorer functional results and higher recurrence rates. Abdominal procedures are generally accepted to have superior long-term results general anesthesia, are but require

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☑ Dr Anirudh V Shah "Anicare", 13, Shantisadan Society Nr. Parimal Garden, Nr. Doctor House, Ellisbridge, Ahmedabad 380 006, India potentially morbid, and have longer postoperative periods of disability. The advent of laparoscopic surgery has changed the technical but not the conceptual approach to many abdominal operations. Laparoscopy in pediatric surgery has come a long way over the past decade, thats to the advent of small sized instruments.

Rectal prolapse is relatively common in young children and usually occurs as a result of a diarrheal illness, wasting illness, constipation, or malnutrition.<sup>2,3</sup> Prolapse is probably an intussusception of the rectum in most cases through a dilated levator mechanism.<sup>4</sup> Straining allows stretching of the pelvic diaphragm, and other less welldefined suspensory structures of the rectum resulting in rectal prolapse.<sup>2,5</sup>

Many modalities of treatment have been described for rectal prolapse varying from changing of defecation habits to various surgical therapies. We describe here, the laparoscopic approach to the management of rectal prolapse.

#### **Case Report**

A 12-year old male child was referred to us with a history of rectal prolapse for five

years. The child had undergone medical management with no definite improvement in his symptoms. Investigations did not reveal any primary cause for the prolapse apart from nutritional compromise. After preparing the bowel, we did a laparoscopic rectopexy on the child. Pneumoperitoneum was created with CO, through a Verres needle and pressure was raised to 12 mm of Hg. We placed three ports. One 3mm port was placed at the umbilicus for the telescope and two 3 and 5 mm ports were placed in the left and right iliac fosse respectively. The lower sigmoid and the rectum were mobilized and fixed with selomuscular sutures using 3-0 polyglactin to the anterior abdominal wall (Fig 1&2). The procedure took 30 minutes. The postoperative period was uneventful. The bowels started to function from the second postoperative day and there was no evidence of prolapse. The child was discharged on the second postoperative day. After six months of follow up, the child is doing very well and there is no recurrence of prolapse.

## Discussion

Laparoscopy has been used to extend our diagnostic capabilities as well as to facilitate a smooth transition to therapeutic measures when necessary. It is well tolerated by infants, even neonates and premature ones. It demands some adjustment in instruments and insufflation pressure with instant adjustments made according to the situation encountered.

In the present case an undernourished child with chronic rectal prolapse underwent a laparoscopic repair. The technique of fixing the rectum and lower sigmoid to the anterior abdominal wall for treating rectal prolapse has been described in the Lahaut's operation<sup>6</sup> and Pemberton-Stalker operation,<sup>7</sup> and the same concept was used to treat this child successfully using laparoscopy.

We used three interrupted 3-0 polyglactin sutures which were placed over the anterior wall of the rectum. The needle was introduced through the anterior abdominal wall after marking the site by pushing on the external abdominal wall under laparoscopic



Fig 1 : Laparoscopic management of rectal prolapse in children.



Fig 2 : Laparoscopic approach to management of rectal prolapse in children.

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guidance at the site of rectopexy. After a satisfactory bite was taken over the rectal wall, the needle was brought our through the abdominal wall at the site of introduction. Both the knots were tied after the stitches had been taken at the desired sites satisfactorily. We believe that laparoscopic rectopexy is an excellent technique in the management of rectal prolapse. We suggest placing of extracorporeal sutures for small patients in whom there is a small working space, which would make the procedure much easier and safer.

This procedure is one of the first of its kind in India, and the authors are yet to find this procedure done in a child laparoscopically in world literature. This procedure is relatively new, and the long term results of this procedure are yet to be established. The authors also do not advocate the use of this procedure as a primary surgical procedure in the management of rectal prolapse. However for selected patients, this can be an important tool in the armamentarium of the pediatric surgeons for the treatment of a common problem like rectal prolapse.

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