ROLE OF T-TUBE IN SINGLE STAGE MANAGEMENT OF RECTAL ATRESIA IN NEWBORN

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ABSTRACT

Rectal atresia is extremely rare condition of ano-rectal malformation with normally placed sphincteric muscles and anal canal. There are various surgical procedures have been described, ranging from simple perforation of the atresia to stage procedure like extensive sacro-abdomino-perineal pull through, posterior sagittal anorectoplasty and trans anal end to end rectal anastomosis with colostomy. Because of colostomy induced complication baby have severe postoperative morbidity. To avoid this problem we use proximal T-tube drainage procedure after trans-anal end to end anastomosis. We share our experience of this procedure in six patients without any complication in last three year.

INTRODUCTION

Rectal atresia (RA) with a normal anus is a rare anomaly mostly described as type of anorectal malformations with a reported incidence of 1-2% [1] of all anorectal anomalies. In rectal atresia, the anus is open, but a variable segment of rectum superior to the anus is atretic without any fistulous communication to lower urinary tract. The anus and anal canal are normal in relationship with well-developed sphincteric muscles [2]. Depending on the gap between the proximal blind-ending rectum and distal anorectum four grades have been described by Durairajan[1] Because of its extreme rarity, the definitive management is still controversial, although several surgical approaches to its treatment have been proposed [3-5]. All of them have post-operative complication with stage procedure. We describe single stage transanal end to end recto-rectal anastomosis with proximal T-tube drainage for isolated rectal atresia and successful outcome after T-tube removal after 10th post-operative day.

MATERIAL AND METHODS

From 2010 to 2013, we have treated 6 cases of rectal atresia with T-tube drainage. Seven patients were male, and five were female. The age when laparotomy was done ranged from 2 to 6 days; with an average of 3.2 days after birth. All of them have short gap rectal atresia without fistulous communication with normal anal canal. All babies have distension of abdomen with bilious vomiting since birth. Invertogram showed distended rectal pouch suggestive of rectal atresia.

Operative Technique and Postoperative Course

An inframucosal left transverse incision was used. The proximal rectal atretic segment was identified. A10 Fr hegar metal dilator was passed through a opening which was made in proximal dilated segment of rectum and the proximal blind segment can be effectively "intussuscepted" into the anal canal, almost outside the anal verge by dilator [figure-1]. A midline sagittal incision was made over the metal bougie to exposes the rectal pouch and after mobilization from the surrounding muscle fibers, the end-to-end rectal anastomosis was performed in circumferential manner after applying multiple stay sutures.

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A 12 Fr T-tube was placed in proximal rectal opening for decompression and meconium diversion of the atonic rectal segment in place of colostomy [figure-3]. The abdomen was closed with t-tube in situ. The patient was kept nil per mouth for seven days. After passing stool, the T-tube was removed on 10th post-operative day and discharged after 14th day. The all baby was well in follow up.

**DISCUSSION**

Rectal atresia is an extremely rare anomaly and constitutes 1%-2% of anorectal malformations [1]. However, its incidence in the southern part of India is relatively higher (14%) compared with the other parts of India (2% to 3%) [6]. Rectal atresia has been classified as a type IV anomaly in the Ladd-Gross classification [7] I and as a high anomaly in the International and Wingspread classifications. [8]. Durairajan[1] classified his series of 147 cases into four grades: I, rectal atresia having a short gap (< 2 cm) with or without an intervening fibrous band (most common); II, rectal atresia with a long gap; III, septal type; IV, rectal stenosis with a varying length of stenotic segment. The exact pathogenesis of rectal atresia is unknown, but it is postulated to be an acquired anomaly arising from intravascular thrombosis secondary to intrauterine infection [9]. The diagnosis may be made by rectal examination or by insertion of a 12F rubber catheter into the anus. Computed tomography and magnetic resonance imaging are valuable for excluding pelvic anomalies (such as a presacral mass) and spinal, anomalies and for delineating the pelvic muscular anatomy [10].

Normally between sphincteric musculature and the pelvic floor musculature, the prognosis is good. Optimal continence is the ultimate goal in the treatment of all forms of anorectal anomalies. In most cases of rectal atresia, the anal canal and sphincter are normally formed, and therefore continence should be normal after reconstruction of atresia. Various operative methods has described which includes transanal end-to-end recto rectal anastomosis, mucosal proctectomy and coloanal anastomosis, and posterior sagittal approach.[5,10-12] .We follow the management of rectal atresia as described by Upadhyaya P [5] with modification by T-tube in place of colostomy because it is single stage, less traumatic and without colostomy induced morbidity.

**CONCLUSION**

There are various operative procedure described in literature but all of them have two stage procedure with postoperative morbidity due to colostomy. Our single stage transanal end-to-end recto rectal anastomosis with proximal t-tube drainage procedure can reduce postoperative morbidity and improve survival.
REFERENCES