ISSN - 2394-7721

American Journal of Oral Medicine and Radiology

Journal homepage: www.mcmed.us/journal/ajomr

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

Punit Srivastava[1*], Richa Jaiman[2], A.N.Gangopadhyay[3], S.P. Sharma[3]

[1]Asst Professor, Pediatric Surgery, Institute of Medical Sciences, Banaras Hindu University, Uttar Pradesh 221005, India.
[2]Associate Professor, Surgery, Sarojini Naidu Medical College, Agra, Uttar Pradesh 282004, India.
[3]Professor, Pediatric Surgery, Institute of Medical Sciences, Banaras Hindu University, Uttar Pradesh 221005, India.

Article Info

Received 23/09/2014
Revised 16/10/2014
Accepted 19/10/2014

Key words:- Rectal atresia, ano-rectal malformation.

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.

Corresponding Author

Punit Srivastava
Email: - contact2ps@rediffmail.com

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 infraumblical 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

[figure-2]. 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 fallow up.

Figure 1. showed proximal blind rectum intussuscepted into the anal canal to outside the anal verge

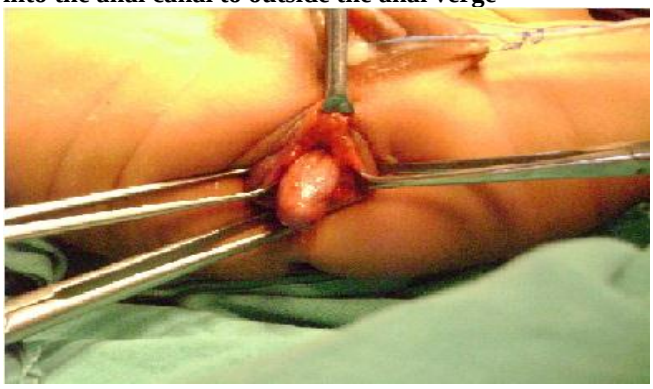

Figure 2. showed transanal, end-to-end, recto-rectal anastomosis in circumference

Figure 3. showed T-tube in proximal rectum for decompression

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]. Because the anal canal and lower rectal pouch developed 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

1. Dorairajan T. (1988). Anorectal atresia. *In*: Stephens FD, Smith ED, Paul NW, editors. Anorectal malformations in children. New York: Liss, 105-10.
2. Smith ED, Stephens FD. (1988). High, intermediate and low anomalies in male. *In*: Stephens FD, Smith ED, Paul NW, editors. Anorectal malformations in children. New York: Liss, 17-72.
3. Magnus RV. (1968). Rectal atresia as distinguished from rectal agenesis. J Pediatr Surg, 3, 593-598.
4. Upadhyaya P. (1978). Intraluminal anastomosis-A new approach to the surgical treatment for rectal atresia. *Z kmderchir*, 24, 178-183.
5. Upadhyaya P. (1990). Rectal atresia-transanal, end to end. Rectorectal anastomosis-a simplified, rational approach to management. J Pediatr Surg, 25, 535-537.
6. Chatterjee SK. (1991). Anorectal malformation-A surgeon's experience. New York, NY, Oxford University Press, 160-161.
7. Gross RE. (1953). Malformations of the anus and rectum, in The Surgery of Infancy and Childhood. Philadelphia, PA, Saunders, 348-366.
8. Stephen FD, Smith ED. (1986). Classification, identification and assessment of surgical treatment of anorectal anomalies. *Pediatr Surg Int*, 1, 200-205.
9. Sharma AK, Chaturvedi V, Wakhlu A. (1995). Anal agenesis associated with rectal atresia. *J Pediatr Surg*, 30, 113-114.
10. Sachs TM, Applebaum H, Touran T, et al. (1990). Use of MRI in evaluation of anorectal anomalies. *J Pediatr Surg*, 25, 817-821.
11. Vaneerdeweg W, Hubens G, Deprettere A. (1995). Mucosal proctectomy and colo-anal anastomosis as treatment of rectal atresia. *J Pediatr Surg*, 30, 1722-1723.
12. Pena A. (1992). Current management of anorectal anomalies. *Surg Clin North Am*, 72, 1403-1416.