

Recto-Vestibular Fistula: Single Stage TFARP (Trans Fistula Anorectoplasty) without Colostomy-our Experience

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Abstract

Background: Vestibular fistula is the most common type of anorectal malformation seen in females and it can be of low variety which is an anovestibular fistula for which a cut back is good enough, but usually an intermediate variety is seen that is called rectovestibular fistula. Standard surgical treatment for this anomaly is either ASARP (Anterior sagittal anorectoplasty) or PSARP (Posterior sagittal anorectoplasty). We have adopted a technique of Transfistula Anorectoplasty, which doesn't divide the sphincteric complex. *Materials and Methods:* The current study involves 24 cases of rectovestibular fistula which were treated by primary TFARP without colostomy. We analysed the functional and cosmetic results with this method in our study. *Results:* Functional results were good in all patients except one which had complete retraction of rectum and needed a colostomy and revision of procedure. The cosmetic result was good with an almost normal looking perineum in most cases as the perineal body was not divided. However constipation was the major problem in majority of cases. *Conclusion:* We found TFARP a very useful and simple procedure with good cosmetic and functional results saving the patients from a colostomy.

Keywords: Rectovestibular Fistula; Colostomy; Anorectal Malformations; Transfistula Anorectoplasty.

Introduction

Most common presentation of anorectal malformation in females is in the form of a fistula to

either vaginal vestibule or in the perineum. Out of these the majority of cases presents with a recto vestibular fistula which was classically described as an intermediate variety and was traditionally treated in three stages [1]. Anovestibular or anoperineal fistula was classified as low variety while rectovestibular as intermediate variety in wingspread classification. However Alberto Pena in his classification did not differentiate between these two and recommended a PSARP for both these conditions under a cover of colostomy [2].

In Recto vestibular variety, the fistula opens near the vagina at the posterior fourchette and is directed posterior and upward. It is managed surgically by anal transposition, also known as trans-sphincter ano-rectoplasty (TSARP). In this approach, the vestibular fistula is mobilized until completely separated from the vaginal wall, then is transposed within the muscle complex and external sphincter to the site of new anus via a separate incision [3,4]. This approach was followed until 1982, when PSARP was described and became the accepted method of treatment for various forms of imperforate anus [5,6]. Okada et al described the ASARP in 1992 [7,8]. Both approaches, PSARP and ASARP, involved division of the levator muscles and muscle complex, the perineal body, and the perineal skin. This may be associated with wound complications like scar in the perineum and wound dehiscence. Akshay et al described newer technique TFARP without cutting the perineal skin and perineal body. The purpose of present study was to see the effectiveness of Transfistula Anorectoplasty (TFARP) which required minimal dissection without interruption of perineal body and perineal skin [9].

Method

This study comprised of 24 patients ranging from 6 months to 1 year of age, who presented with

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vestibular fistula to the unit of Pediatric surgery, at S N Medical college, Agra from November 2012 to November 2015. All the patients were followed up from early neonatal age group till they were offered surgery at around 6 months to 1 year of age. From the time of first consultation, the patients were started on oral lactulose and regular dilatation of fistula was advised with Hegars dilator. The size of dilator was increased every month till the size 10 Hegars dilator was easily accommodated. All with colostomy and/or severe systemic disease or history of surgery in the perineum were excluded. A barium enema was done in all patients to rule out significant rectal ectasia and the patients who had a grossly dilated rectum with faecoliths were excluded from the study. All the patients were prepared preoperatively with standard bowel preparation with erythromycin and metronidazole and rectal irrigation by normal saline and nothing per oral for 48 hours.

Surgical Technique of TFARP

TFARP operation was performed under general anesthesia and patient was placed in lithotomy position. Site of the anus is marked by electro-stimulation. Circumfistula incision was given in the vestibule. Several fine silk traction sutures insertion around the fistula orifice. Separation of the rectum from the posterior vaginal wall was done by sharp dissection. Meticulous dissection of anorectum was performed till about the level of cervix with care not to damage the vagina or the rectum. Haemostasis was ensured. Placement of mobilized rectum was performed at the proposed site of anus through centre of muscle complex with fixation of rectum to the muscle complex. Anoplasty was done by standard technique with apposition of vestibular wound. Average operative time was 75 mins.

Post Operative Management

Postoperatively, the patients were kept nil orally for three days, kept on IV cefotaxime and metronidazole and IV fluids. Once the bowel movements started, oral feeds were allowed. The operative site was cleaned with betadine solution after every bowel movements and metronidazole ointment was applied. The pts were discharged after 5 days on oral antibiotics with advice of maintaining hygiene of perineal area and were asked to follow up after a week. Anal calibration was started with Hegar's dilator, 2 weeks after surgery and continued till 6 months postoperatively. One child had a major retraction of rectum, and had to be taken up for a diverting sigmoid colostomy and redo after 2 months.

Results

The average age at the time of surgery was 7-8 months and the average time taken for surgery was around 75 to 90 minutes. The average post op stay was 5-7 days, and the children were followed till 6 months following surgery. Total number of 24 patients underwent single stage TFARP, out of which 18 underwent uneventful recovery, 3 children had wound infection, leading to cut through of perineal sutures, which were managed conservatively, while 2 pts had mild retraction of anoplasty again managed conservatively. . During dissection of common wall between rectum and vagina, in 3 cases we had vaginal injury which was repaired immediately and did not result into any sequelae. One child had complete retraction of anoplasty which was managed by a colostomy and a redo procedure was after 2 months. Redo was done via PSARP. Due to dedicated anal dilatation postoperatively, none of our patients had any anal stenosis. But almost 75% patients had varying degrees of constipation which was managed by judicious use of oral lactulose and enemas. The overall cosmetic appearance of neoanus was good with almost normal looking perineum in all cases with minimal scarring, since the bridge of normal skin was preserved between the anal site and the fistula, during surgery. All patients were fully continent after procedure.



Fig. 1: Clinical appearance of rectovestibular fistula



Fig. 2: Dissection of rectum from the posterior vaginal wall and pulling it through the centre of sphincter complex, preserving the perineal body and muscle complex

Discussion

The primary advantages of performing anorectoplasty without a colostomy are the avoidance of colostomy-related complications and multi-staged surgeries [9,10]. Single-stage procedure not only attains the same results as the staged procedure with fewer early operative complications, but it also eliminates the risks of multiple anaesthesia's and operations. It eases the physiologic, psychologic and economic burden [11]. The technique of TFARP described above differs from the standard limited PSARP and the ASARP in that the external sphincter complex and the levator muscle are not divided, Perineal or posterior sagittal incisions are not utilized, and therefore the perineal body and neurovascular supply are not disturbed and the rectal pouch is not tapered, and hence the internal sphincter is preserved [12]. The advantage of performing this surgery in lithotomy position is in better visualization of anatomy as it is. We see the chances of making holes in vagina or rectum during their separation are minimum by this method as compared to doing the

procedure in prone position like in PSARP or limited PSARP. The absence of any incision over the perineum leads to good cosmetic and functional result and reduces the risk of wound dehiscence in this critical region [12]. Correct placement of the rectum through the external sphincter is vital in TFARP for continence. With the help of muscle stimulator the sphincteric complex can be clearly visualized and it is possible to pull the rectum directly through it. TFARP thus provides satisfactory functional and cosmetic results with a normally situated anal opening. In different reports of single-stage surgery, wound infection rate ranged from 0% to 10.6% [13,14,15,16]. In our series, the wound infection rate was around 10% which corroborates with others, but none of our patients had any significant anal stenosis. Several authors report excellent continence ranging from 90.5 -100% were continent [17]. In other series, continence scores were excellent or good among [6,10]. In our series most are having excellent score. Constipation has been found to be a significant long-term problem ranging from 3.7% to 47.9% children, some of them required dilatation, laxatives and enema on occasion [12,18]; we too have encountered constipation as the major sequelae in majority of our patients (75%). Out of 24 patients who were treated by TFARP, only one child had major retraction following surgery, which needed a colostomy, rest all had good post operative results except minor wound infections or retraction of anoplasty. In Akshay et al series all 25(100%) patients vestibular wound healed completely. Constipation is still the most common problem after surgical correction of vestibular fistula and needs to be managed by laxatives for a long time.

Conclusion

Our results are encouraging even though the number of patients included in the study are small. We conclude that a Primary TFARP is an equally effective surgery for rectovestibular fistula as PSARP or ASARP minus the complications of division of sphincter complex and perineum, at the same time avoiding a colostomy. The cosmetic appearance of perineum is better with almost 100% continence. However the only major problem we have encountered is the high rate of constipation in these children. We think that the delay in surgery on an average of 6 months might be causing rectal ectasia and thus constipation. In future we plan to operate these children in the early neonatal age group and will try to see whether that makes any difference in the incidence of constipation.

References

1. Pena A, Levitt MA. Anorectal Malformations In: Grosfield JL, O'Neil JA, Fonkalsrud EW, Coran AG, editors. *Pediatric Surgery*. 6th ed. Philadelphia: Mosby Elsevier. 2006; p. 1566-89.
2. Pena A. Anorectal anomalies'in *Newborn surgery*, 2nd edn, ed.p. Puri, Arnold, London. 2003; 535-552.
3. Templeton JM, O'Neil JA. Anorectal malformations. In: Welch, Welch KJ, Randolph JG, Ravitch MM, O'Neill JA, Rowe JMI, editors. *Pediatric Surgery*. 4th ed. New York: Year Book Medical Publishers. 1986; p. 1022-34.
4. Willital GH. How to avoid complications and continence disturbances in anorectal malformations. In: Willital GH, Kiely E, Gohary AM, Gupta DK, Li M, Tsuchida Y, editors. *Atlas of children's surgery*. Lengerich, Berlin, Bremen, Miami, Riga, Vernheim, Wien, Zagreb. Pabst Sci. 2005; p. 210-23.
5. deVries PA, Pen A. Posterior sagittal anorectoplasty. *J Pediatr Surg*. 1982; 17: 638-43.
6. Pena A, Devries PA. Posterior sagittal anorectoplasty: important technical considerations and new applications. *J Pediatr Surg*. 1982; 17: 796-811.
7. OKada A, Kamata S, Imura K, Fukuzawa M, Kubota A, Yagi M, *et al*. Anterior sagittal anorectoplasty for recto vestibular and anovestibular fistula. *J Pediatr Surg*. 1992; 26: 85-8.
8. Akshay P, Yadav RP, Shekhar VC, Singh A, Sen R. One stage correction of Rectovestibular fistula by trans fistula anorectoplasty. *J,Worldsurg*. 2007; 31 (9) : 1-3.
9. Pena A, Hong A. Advances in the management of anorectal malformations. *Am J Surg*. 2000; 180:3 70-6.
10. Pena A, Migotto-Krieger M, Levitt MA. Colostomy in anorectal malformations: a procedure with serious but preventable complications. *J Pediatr Surg*. 2006; 41: 748-56.
11. Liu G, Yuan J, GENG J, Wang C, Li T. The treatment of high and intermediate anorectal malformations: One stage or Three Procedures? *J Pediatr Surg*. 2004; 39: 1466-71.
12. Pratap A, Yadav RP, Shakya VC, Agrawal CS, Singh SN, Sen R. One-stage correction of recto-vestibular fistula by trans-fistula anorectoplasty (TFARP). *World J Surg*. 2007; 31: 1894-7.
13. Demirbilek S, Ataurt HF. Anal transposition without colostomy: functional results and complications. *Pediatric Surgery Int*. 1999; 15: 221-3.
14. Kumar B, Kandpal DK, Sharma SB, Agarwal LD, Jhamariya VN. Single-stage repair of vestibular and perineal fistulae without colostomy. *J Pediatr Surg*. 2008; 43: 1848-52.
15. Caroline F, Aronson DC. Anterior or posterior anorectoplasty without colostomy for low type anorectal malformation: how to get a better outcome? *J Pediatr Surg*. 2010; 45: 1505-8.
16. Menon P, Rao KLN. Primary anorectoplasty in females with common anorectal malformations without colostomy. *J Pediatr Surg*. 2007; 42: 1103-06.
17. Heinen FL The surgical treatment of low anal defects and vestibular fistulas. *Semin Pediatr Surg*. 1997; 6:204-16.
18. Moore SW, Albert R, Cywes S. Clinical outcome and long-term quality of life after surgical correction of Hirschsprung's disease. *J Pediatr Surg*. 1996; 31:1496-1502.