One Stage Posterior Anal Transposition for low and Intermediate Anorectal Anomalies in Females

Ibrahim Ali Ibrahim, Mohamd Korany, Samir A Ammar
Department of general surgery, Assiut University, Egypt

Background/ Purpose: low and intermediate anorectal anomalies in females are common and usually associated with good functional outcome. A variety of surgical techniques have been described for treatment. Posterior anal transposition avoids dividing the pelvic floor muscles and preserves a skin bridge between the neo-anus and the repaired perineum resulting in a good functional and aesthetic outcome. The aim of this study was to evaluate the results of posterior anal transposition in the treatment of these anomalies.

Materials & Methods: Thirty female patients with low and intermediate anorectal anomalies (20 patients with anovestibular fistula, 6 patients with anoperineal fistula and 4 patients with recto vestibular fistula), were treated at pediatric surgery unit, Assuit University Hospital, during the period from 2003 to 2007. All patients were treated using one stage anal transposition approach without a preliminary colostomy

Results: The mean operative time was 50 minutes. Sound healing occurred in 26 patients, 3 patients had superficial wound dehiscence, and one patient had complete wound disruption with anterior migration of the rectum which required redo operation

Conclusion: The posterior anal transposition is an easy to perform with reasonable operative time and clear visualization and precise identification of the perineal and sphincteric muscles. It can be performed as one rather than three stages with good cosmetic and functional outcome

Index Word: Anal transposition, anorectal anomalies.

INTRODUCTION

Imperforate anus occurs in one of 5000 live births. It is reported that the majority of girls with imperforate anus will have a lesion of the low variety with a fistula to the perineum, fourchette or vestibule. According to the international classification of anorectal malformations, anteriorly placed anus includes anovestibular fistula, anoperineal fistula (low anomalies) and rectovestibular fistula (intermediate anomaly). According to Pena’s classification, these low anomalies are classified into perineal and vestibular fistula. Pena did not distinguish between rectovestibular and anovestibular fistula. The close proximity of the ectopic anus with the vulva and the stenosed opening seen in large majority of cases necessitates some form of surgical correction. Minimal degree of displacement of the anus in girls requires no treatment if there is no stenosis, otherwise dilatation may be required. More displacement of the anus or anal significant stenosis can be treated by V-Y operation. The anovestibular fistula is too far forward and too close to the vagina for a cut back operation. A variety of surgical procedures like posterior anal transposition, Mollard’s operation, anterior or

Correspondence to: Ibrahim Ali Ibrahim, Department of general surgery, Assiut university, dr.ibrahimali@yahoo.com
posterior sagittal anorectoplasty with or without a diverting colostomy have been done.\textsuperscript{5}

We report our experience with 30 girls with vestibular anus including results of long term follow up with regard to quality of continence and aesthetic appearance.

**PATIENTS AND METHODS**

From 2003 to 2007, 30 females with low and intermediate anorectal anomalies were treated in pediatric surgery unit, Assiut University hospital. This patient population included 20 patients with anovestibular fistula, 6 patients with anoperineal fistula and 4 patients with rectovestibular fistula.

The age of the patients ranged from 10 months to 18 years (one patient aged 18 years, one patient aged 13 years, and the rest of patients ranged from 10 month up to 8 years. 23 patients were below the age of 2 years, while 5 patients between 2 and 8 years). Of 30 patients, 12 had previous cut back at the time of initial presentation and 9 were on regular anal dilatation.

**Preoperative preparation**

The patients above 2 years were kept on soft diet for 2 days, rectal wash out for 24 hours and a single dose of 3rd generation cephalosporin was given 12 hours before surgery and another one with the induction of anesthesia.

**Operative technique:**

For all patients one stage posterior anal transposition was done. The patient was put in the lithotomy position. The site of the anus was identified by stimulation A 1\,1000 epinephrine in saline was injected around the fistula to facilitate dissection and to achieve haemostasis. A circumferential incision was made around the fistula. The rectum was then mobilized up to the level of the levator muscle by sharp dissection close the bowel wall (Figures 1-2).

The site of the external sphincter was identified with muscle stimulator, and a vertical incision was made over its center. A tunnel was created through the external sphincter and the mobilized rectum was pulled through it and anastomosed to the skin. The sphincters and perineal body were then repaired from within outwards using absorbable sutures. A small piece of gauze was inserted in the neo-anus and the wound was closed. A foley catheter was fixed and the patient was kept on intravenous fluids for 48 hours to delay the passage of stool (Figures 3-5).

A third generation cephalosporin and metronidazole were given for 4 days. The dressing was changed after 24 hours and the wound was left exposed. The wound was cleaned with saline and povidone iodine every 12 hours and after each passage of stool. Oral feeding was allowed after 48 hours, starting by fluids and soft diet. The patient was discharged after 3 days.

**RESULTS**

One stage posterior anal transposition was performed for 30 patients. The mean operative time was 50 minutes. There was no technical difference between anovestibular and anoperineal fistula. The rectovestibular fistula required more dissection of the rectum.

Skin sutures were removed after 10 days and gradual anal dilatation started after 15 days postoperatively for variable periods.

Five patients had postoperative complications. One patient had complete wound disruption with anterior migration of the rectum which needed division of the skin bridge and the wound treated conservatively until healing occurred and Redo operation was done after 3 months with a good result.

One patient developed post operative bleeding the same day of the operation which required re-exploration of the perineum only and the bleeding was controlled by ligation of a bleeder on the anterior rectal wall.

Three patients had wound infection resulted in superficial gapping of the wound they were treated conservatively and healing occurred.

**Follow up**

Two patients were lost in the follow up. Twenty eight patients had regular follow up visits, 22 of them had a normal perineum with an adequate anal opening and effective contraction of the sphincter muscles (Figures 6).

The functional outcome was assessed in 24 patients, who were older than 3 years. Normal continence was defined as voluntary defeation without soiling or constipation. 20 patients were totally continent, 3 patients had intermittent constipation and they are improving on oral laxatives. Four patients were still under the age of 3 years.

One of the 2 patients, who did not come for follow up, presented with severe stricture and constipation.
She did not respond to dilatation and posterior cut back anoplasty was needed and she is now doing well.

Fig 1. Preoperative view.

Fig 2. Mobilization of the rectum.

Fig 3. Pull of the rectum through the external sphincter.

Fig 4. Repair of the perineal body.

Fig 5. Immediate postoperative view.

Fig 6. Few months after the operation.
DISCUSSION

The goal of anorectoplasty is to anatomically reconstruct the malformation to achieve faecal continence without damaging the nervi erigents and to have an aesthetic appearance of the neo-anus.6

In perineal fistula and rectovestibular fistula the rectal pouch has already traversed the levator ani muscle and adequate mobilization of the rectal pouch can be achieved without cutting the levator muscle.7

Many surgical procedures are used for treatment of anovestibular and rectovestibular fistulae, which include cut back, perineal anal transplant, Y V and X-Z plasty, colostomy followed by minimal posterior sagittal anorectoplasty, sacroperineal repair, neutral sagittal, and anterior sagittal anorectoplasty. 8, 6, 7

The cut back anoplasty results in a poor functional and aesthetic outcome with vulvar soiling.9

A posterior cut back was used as a preliminary procedure in some patients with very tight vestibular fistula not amenable to dilatation.

The PSARP described by Pena and de-Vries was met with the reservation concerning the need to divide the puborectalis component of the levator muscle to expose the rectum even though, the muscle was subsequently repaired.10

The posterior anal transposition preserves an intact perineal skin bridge which eliminates the risk of wound problems; also the levator muscle is identified but not divided.6

The anterior sagittal anorectoplasty has the advantages that direct visualization of the sphincter complex can be achieved easily and the rectum can be located properly within the muscle complex with closure of the anterior fibers in front of the anus. But wound infection and dehiscence can occur.7, 11

We believe that posterior anal transposition has the advantages of preservation of a skin bridge between the neo-anus and the repaired site of the fistula which eliminates the risk of wound dehiscence and also results in a better aesthetic result due to lack of an incision and scar. The rectum can be dissected easily, with direct visualization of the sphincter complex and can be placed properly within the muscle complex. The perineal body and posterior fourchette are closed precisely from within out wards.

Wound infection occurred in 3 of our patients, resulted in anterior migration of the rectum and discharge of faeces anterior to the skin bridge which was divided and the wound was left for spontaneous healing. Redo anal transposition was done after 6 months.

Contrary to previous teaching of operating on these children around the age of one year, a view has arisen suggesting that such malformations should be corrected much earlier. Pena (1988) has reported operating on these children around 2-3 months of age. Others have recommended such corrective procedures soon after birth hoping to achieve optimal results with lesser complications. Due to late presentation, 7 of our patients were older than 2 years. The rest of our patients were below the age of 2 years, 17 of them were below the age of one year.

The need for a diverting colostomy in babies with vestibular fistula is debatable. Pena recommended a colostomy in all babies with vestibular fistula, because it is a defect that has a good functional prognosis and perineal wound complications after PSARP would compromise the outcome. The diverting colostomy also prevents dilatation of the rectum occurring prior to the definitive procedure. A dilated rectal pouch might affect the functional outcome after anorectoplasty.13 However, besides the obvious disadvantages of the three stages procedure and the costs involved, colostomy in anorectal anomalies is associated with frequent and sometimes severe complications.8, 14

Performing a posterior cut-back or regular dilatation of the vestibular fistula, the problem of dilated rectal pouch is eliminated and also by preserving the perineal skin bridge, the problem of perineal wound breakdown between the neo-anus and the posterior fourchette is eliminated.

Henien9 reported post operative functional constipation in 47% of patients with anteriorly placed anus and 50% in cases of vestibular fistula.9 Yeung and Kiely reported intractable constipation in 28% of their patients.15 Post operative functional constipation occurred in 3 of our patients and improved partially on oral laxatives and intractable constipation due to severe stricture occurred in one patient and required cut back anoplasty.

Hassink et al.16 studied long-term results and quality of life in these patients (beyond 18 years of age) and found that 12% of patients remained socially restricted and handicapped thus, needing continued psychological support.16
Psychological support was offered to 7 of our patients presented after the age of 2 years (one patient at age of 13 years and another at age of 18 years who sought our advice because she was engaged).

It is a well-known fact that the repair cannot withstand the stresses of child birth if normal labour is allowed and 3rd degree perineal tears can occur. Such a risk is commoner in developing countries, we recommend delivery by Caesarean section in the future.

**CONCLUSION**

The posterior anal transposition has the advantages of being preformed as one rather than three stages, easy to perform, with clear visualization and precise identification of the perineal and sphincteric muscle complex, and with good cosmetic and functional outcome. It can be performed in infants as well as adults.

**REFERENCES**


