Anterior Sagittal Anorectoplasty: Our Experience

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Context: Anterior sagittal anorectoplasty (ASARP) is accepted as one of the techniques for the repair of vestibular fistula (VF) and low-type anomalies, but some may have reservations.

Aims: The aim of the study is to describe the technique, important features, and functional and cosmetic outcomes of ASARP for the treatment of anorectal malformation (ARM) in females.

Settings and Design: A prospective study was performed from 1992 to 2017.

Materials and Methods: The study included 157 pediatric patients (aged 1–15 years) with diagnosis of ARMs with VF, perineal fistula (perineal ectopic anus), and rectovaginal fistula managed by ASARP.

Results: Most cases (36.94%) were 1–6 months’ age group; 92.99% of patients (146) were having VF, 5.09% (8) perineal fistula, and 1.91% (3) rectovaginal fistula. Associated anomalies (37) were present in 19.75% (31) of patients. Primary ASARP was performed in 85.35% (134) of cases. The mean operative time was 105 (±15) min. Intraoperative complications were seen in 3.82% (6) of patients. Early postoperative complications were seen in 5.09% (8) of patients – wound infection (4), wound dehiscence (3), and retraction of the rectum (1). Late complications were seen in 12.73% (20) of cases. Overall, five patients developed anal stenosis, two responded to dilatation therapy, and three required anoplasty. The external appearance of the perineum after the 3rd month (postoperatively) was satisfactory in 95.54% (150); overall, 4.46% (7) of patients required the second procedure. Stooling pattern could be assessed in 80.25% (126) of patients at 3 years’ age group. Only one had poor outcome with severe soiling (incontinence) and perineal excoriation that also had myelomeningocele.

Conclusions: ASARP is an excellent procedure for VF as it results in optimal correction with minimal sphincteric damage, without additional complexity or difficulties. Primary ASARP is a quick and effective technique and does not require colostomy if performed after due preoperative gut preparation and by an experienced pediatric surgeon.

Keywords: Anorectal malformation, anterior sagittal anorectoplasty, outcomes, perineal fistula, rectovaginal fistula, vestibular fistula

INTRODUCTION

Vestibular fistula (VF) is the most common form of anorectal malformation (ARM) in females.[1] It is a high-type anomaly with the fistula opening near the vagina at the posterior fourchette, as shown in Figure 1.[2] Fistula is adherent to the posterior vaginal wall and is directed posteriorly and upward.[1] Patients with VF have good prognoses in terms of bowel function when properly treated.[2] Its repair is classically performed in three stages with initial colostomy operation. At present, single-stage repair is favored by various researchers in
India and abroad. The most popular procedure for its correction is posterior sagittal anorectoplasty (PSARP). Anterior sagittal anorectoplasty (ASARP) is accepted as one of the techniques for the repair of VF and low-type anomalies, especially in females [Figure 2].

This is a procedure which has been in practice owing to the better understanding of the complex anatomy of the perineal musculature and the anteriorly displaced distal anorectum. Some pediatric surgeons may have reservations regarding ASARP.

Aims and objectives
The aim of the study is to describe the technique, important features, and functional and cosmetic outcomes of ASARP for the treatment of ARM in females.

Materials and Methods
A prospective study was performed over a period of 26 years, from 1992 to 2017. The study included 157 pediatric patients with diagnosis of ARMs with VF, perineal fistula (perineal ectopic anus), and rectovaginal fistula managed by ASARP. The diagnosis was made by clinical examination. Preoperative investigations included hemogram, complete blood counts, and blood glucose. Radiographs of the spine were performed in cases of vertebral defects. Echocardiography was done in those patients showing physical signs of cardiac abnormality. A contrast enema was performed to rule out congenital pouch colon (CPC) in cases with constipation or straining at stools despite an adequate size of fistulous opening. Patients with dilated rectum on contrast enema study were given rectal washouts for at least 2–3 weeks so as to assure good rectal muscle tone and thus avoiding requirement of tapering rectoplasty.

All patients were given preoperative bowel irrigation with either normal saline or polyethylene glycol electrolyte lavage solution (25 ml/Kg/h) and with daily enema washouts 48 h prior to surgery. Patients were administered intravenous (IV) fluids and gut sterilization with IV cephalosporin.

The clinical and operative records and other details of these patients were analyzed along with associated malformations. Charts were reviewed according to age at presentation, chief complaints, clinical findings, investigations undertaken, management (operative procedure), and outcomes. All patients were assessed for immediate and delayed complications including continence.

Inclusion criteria
All female ARM patients with either VF, low ARM, or rectovaginal fistula were included in the study.

Exclusion criteria
Patients with CPC were excluded from the study.

Technique of anterior sagittal anorectoplasty
The operation was performed with the patient in the lithotomy position. Anesthesia was either with endotracheal intubation or caudal anesthesia with sedation. A small sheet was placed under the buttocks so as to enable clear visualization of surgical field (perineal area). The legs were supported by soft cotton rolls to prevent injury to the hip joint and nerve damage. Urinary catheterization was performed. The site of the anus was assured by the anal dimple and marked by electrical stimulation and silk sutures [Figure 1]. The hyperpigmented skin was a good guideline for proposed anal site. We do not recommend adrenaline solution for infiltration in the incision site (between the fistula and the anal site). A suitable sized Hegar dilator was introduced in the rectum for its assessment; thereafter, it was packed with small gauze piece for the prevention of wound contamination. A midline incision was made from the posterior margin of the fistula to the posterior limit of the proposed anus. The incision was deepened,
and all tissues including perineal muscles and anterior fibers of external sphincter complex were divided strictly in the midline, and the posterior wall of the rectum was exposed [Figure 3]. Posterior to rectum, there is a well-defined plane, and with sharp and blunt dissection, starting posteriorly followed by lateral aspect, the posterolateral rectal wall was separated from the adjacent musculature [Figure 3]. Gentle finger dissection with restricted use of cautery was done for inflicting minimal damage to neurovascular bundles/fibers.

Separation of the anterior wall of the rectum from the posterior wall of the vagina was the most crucial stage of procedure. It began with placement of multiple fine silk traction sutures around the fistulous opening for traction. This was followed by infiltration of normal saline in the common lip (wall) between the rectum and the vagina. The rectum was separated from the posterior vaginal wall (which is without proper demarcation) by sharp and blunt dissection. It requires extreme patience, gentle and sustained traction (stay sutures), and proper assistance and experience. Once the plane of cleavage between the vaginal and rectal walls was achieved, it became easier to separate these two. Anterior dissection between the vaginal and rectal wall was done up to the level of cervix. Mobilization of the rectum was performed circumferentially till the fistulous opening reaches the proposed site of neoanus without tension [Figure 4]. The rectum was placed in the center of the muscle complex. Anterior aspect of the muscle complex was then approximated taking bowel wall (seromuscular) in the stitches, craniocaudally by interrupted suitably sized absorbable sutures. In some cases, the rectum could be pulled through between the preserved external sphincters, as shown in Figure 4.\(^2\) The perineal body was reconstructed anteriorly; the anorectum was fixed to the adjacent musculature circumferentially (prevents recession of anorectum in case of wound infection). Anoplasty was performed in a classical manner with circumferential (absorbable) sutures of 4–0 or 5–0 [Figure 5]. Vaginal vestibule was repaired with fine sutures, followed by repair of perineal skin. Paraffin-impregnated gauze pack was placed in the neoanus, and small pad was used for dressing the perineum [Figure 5].

In patients with perineal fistula, the procedure was easier than VF. The anorectum was mobilized circumferentially, followed by complete division of the posterior ledge. Rest of the procedure was similar to VF.

In rectovaginal fistula, the procedure was more enduring and meticulous. A midline incision was made from the posterior margin of the vagina to the posterior limit of the proposed anus. The perineal muscles and anterior fibers of external sphincter complex were divided strictly in the midline, and the posterior wall of both the vagina and the rectovaginal fistula was exposed. The posterolateral rectal wall was separated from the adjacent musculature, similar to VF. Fistula was separated from the posterior vaginal wall, followed by separation of the anterior wall of the rectum from the adherent posterior wall of the vagina with the placement of multiple fine silk traction sutures around the rectum. Rest of the procedure was similar to VF.

The child was allowed oral intake the next day if colostomy was present, otherwise feeds were deferred for few days. The wound was left exposed after 24–48 h. Local care constituted sprinkling diluted povidone-iodine 5% solution which was done thrice daily or after every bowel movement. Any wound infection/dehiscence and other complications were noted. IV antibiotics (including
metronidazole) were administered for 5 days and oral antibiotics for 10 days. Catheter was removed after the 4–5th postoperative day. The patient was usually discharged after 6–7th postoperative day. The neoanus and sphincter contraction was assessed at 2 weeks postoperatively. Anal dilatation with Hegar dilator was initiated as per age of the patient and size of the neoanus. Follow-up visit was scheduled initially after 1 week, fortnightly for next 1 month, and then monthly for 3 months, 3 monthly for 1 year, and then annually for 4 years. Complications such as excoriation, stenosis, and recurrence were noted. Children were assessed for continence and toilet training after the age of 3 years.

RESULTS

Out of 157 patients subjected to ASARP, 6.37% (10) were in newborn period. Most cases (36.94%) were 1–6 months’ age group. The age distribution ranged from 1-day-old neonate to 15 years [Table 1]. Out of 157 patients, 92.99% (146) were having VF, 5.09% (8) perineal fistula, and 1.91% (3) rectovaginal fistula. Associated anomalies (37) were present in 19.75% (31) patients; four patients had two or more anomalies [Table 2]. Associated genital system anomalies such as vaginal atresia and septate vagina were diagnosed [Table 2].

Primary ASARP was performed in 85.35% (134) of cases, while staged management with prior colostomy was done in 14.65% (23) of patients. Out of 23 patients, in 11 patients, colostomy was performed because of excessive perineal excoriation, while 12 patients had colostomy done somewhere else.

The mean operative time was 105 (±15) min. The mean hospital stay was 8 days (ranged from 3 to 21 days). Intraoperative complications were seen in 6 patients (3.82%), as shown in Table 3. Conduct of anesthesia and patient manipulation was uneventful in all except in one patient with cardiac anomalies.

Intraoperative complications were seen in 3.82% (6) of patients including radial vaginal wall tear (3). All intraoperative complications occurred in early phase of the study [Table 3]. Early postoperative (within 1 week) complications were seen in 5.09% (8) of patients — wound infection (4), wound dehiscence (3), and retraction of the rectum (1). Retraction of the rectum was managed by revision surgery in the 2nd postoperative week [Table 4]. Two out of three cases with wound dehiscence that developed anal stenosis were managed with anoplasty subsequently; none required colostomy.

Late complications (after 1 week) were seen in 12.73% (20) of cases [Table 4]. Overall, five patients developed

| Table 1: Age distribution of patients |
|--------------------------------------|
| Age of patients | Frequency (n=157), n (%) |
| <1 month (new born period) | 10 (6.37) |
| >1 month-6 months | 58 (36.94) |
| >6 months-1 year | 29 (18.47) |
| >1-5 years | 36 (22.93) |
| >5-15 years | 24 (15.29) |
| m=month |

| Table 2: The frequency of associated anomalies associated with anorectal malformation in our study |
|-----------------------------------------------|
| Associated anomalies | Frequency (n=37) |
| Genital | 8 |
| Double Mullerian system | 3 |
| Septate vagina | 2 |
| Imperforate hymen | 2 |
| Absent vagina | 1 |
| Urological | 10 |
| VUR (hydronephrosis with hydroureter) | 4 |
| Renal agenesis | 3 |
| Small kidney | 2 |
| Urethral stenosis | 1 |
| Cardiovascular | 5 |
| Ventricular septal defect | 4 |
| Aortic regurgitation | 1 |
| Neurological/skeletal | 3 |
| Myelomeningocele | 1 |
| Spina bifida | 1 |
| Radial aplasia | 1 |
| Gastrointestinal | 2 |
| EA with TEF | 1 |
| Splenomegaly | 1 |
| Parietal | 1 |
| Umbilical hernia | 1 |
| Miscellaneous | 8 |
| Cleft lip | 1 |
| Cleft palate | 1 |
| Preauricular tag | 1 |
| Hemangioma thigh | 1 |
| Atopic dermatitis | 1 |
| Hypomelanosis | 1 |
| EA with TEF: Esophageal atresia with tracheoesophageal fistula, VUR: Vesicoureteral reflux |

| Table 3: Frequency of intraoperative complications, their management, and outcomes |
|-----------------------------------------------|
| Intra-operative complications | Frequency (n=6) | Management | Outcome |
| Radial vaginal wall tear | 3 | Repair | Satisfactory (3) |
| Hemorrhage | 1 | Blood transfusion | Satisfactory (1) |
| Rectal wall injury | 1 | Repair | Satisfactory (1) |
| Anesthesia related | 1 | Inotropic support | Satisfactory (1) |
anal stenosis, two responded to dilatation therapy, and three required anoplasty. Anoplasty was also done in one case with posterior ledge. Perineal excoriation (5) was managed by medications and local application of calamine lotion, etc., One patient had recurrence of VF and was repaired by the second ASARP after 6 months. Three cases developed constipation and managed successfully with anal dilatation program, laxatives/enemas, and toilet training.

The external appearance of the perineum after the 3rd month postoperatively was satisfactory in 95.54% (150) of cases. In the rest, 4.46% (7) of patients developed anal stenosis requiring anoplasty (3), severe perineal excoriation (1), mucosal prolapse requiring mucosectomy (1) and anterior displacement of anus (1), and posterior ledge (1). The perineal body was good with small scar in all (157) cases in the study. The scar extended from the posterior margin of vaginal vestibule to the site of neoanus. Overall, 4.46% (7) of patients required the second procedure, and only 1.27% (2) required revision by ASARP.

Stooling pattern could be assessed in 80.25% (126) of patients at 3 years’ age group. The patients included those undergoing primary procedure (115) and those with staged procedure after colostomy closure (11). All these patients had normal frequency, absent or mild soiling, and normal anal position. Only one had poor outcome with severe soiling (incontinence) and perineal excoriation that also had myelomeningocele. This patient was managed by bowel management program, and the outcome was satisfactory.

**DISCUSSION**

Basic objectives in female ARM correction are to facilitate (a) proper separation and identification of sphincter muscle complex, (b) adequate separation of the vagina from the rectum, (c) adequate downward mobilization of rectum to perform a tension-free anastomoses with skin, and (d) passing rectal tube through sphincter muscle complex. Surgical techniques used for the treatment of VF and low-type anomalies in females include cutback procedure, perineal anal

| Early postoperative complications | Frequency (n=8) | Management | Outcomes |
|-----------------------------------|----------------|------------|----------|
| Wound infection                   | 4              | Application of antiseptic solution | Satisfactory (4) |
| Wound dehiscence                  | 3              | Application of antiseptic solution (3) | Satisfactory (1) |
| Retraction of rectum              | 1              | Revision | Satisfactory (1) |

| Late postoperative complications | Frequency (n=20) | Management | Outcomes |
|----------------------------------|-----------------|------------|----------|
| Anal stenosis                    | 5              | Responded to dilatation therapy (2) | Satisfactory (5) |
| Perineal excoriation             | 5              | Conservative medications | Satisfactory (4) |
| Mucosal prolapse                 | 3              | Reduced spontaneously (2) | Satisfactory (3) |
| Constipation                     | 3              | Mucosectomy (1) | Satisfactory (1) |
| Anterior displacement of anus/recurrence of fistula | 1 | Revision | Satisfactory (1) |
| Posterior ledge                  | 1              | Anoplasty | Satisfactory (1) |
| Fecal impaction                  | 1              | Enemas | Satisfactory (1) |
| Severe soiling/incontinence       | 1              | Bowel management program | Satisfactory (1) |

**Table 4: Frequency of early and late postoperative complications, their management, and outcomes**

**Figure 5:** Photographs taken at the completion of anterior sagittal anorectoplasty (on left) showing small perineal wound between 5th and 10th postoperative periods.
transposition, neutral sagittal anorectoplasty, Y-V plasty, minimal PSARP, sacroperineal repair, and ASARP.[4] Minimal PSARP and anal transposition are the most popular procedures but are marred with incomplete anatomic exposure, blind tunneling of the rectum, deficiency in perineal body reformation, and anterior migration of the anus.[1] PSARP was introduced by Peña and Devries in the early 1980s and is the procedure of choice for female ARM at many centers.[5,6] PSARP provides good anatomic exposure, but prone position results in obvious inconvenience for the surgeon during the dissection due to reversal of anatomy. Furthermore, this awkward manipulation in jackknife prone position may lead to technical complications, for example, (a) accidental endotracheal tube migration and (b) dislodgement of IV access and monitoring lines.[4] More attentiveness by anesthesiologist is mandatory due to prone position: (i) abdominal compression with impaired ventilation occurs which leads to decreased cardiac output, especially in children with cyanotic heart diseases, (ii) restricted approach to the face and chest, (iii) nerve compression (e.g., femoral nerve) at pressure point, (iv) spine hyperextension, and (v) eye injury.[4]

ASARP for VF was first described by Okada et al. in 1992,[6] and later on by Wakhlu et al.[1] This technique achieves basic aims in female ARM correction and offers unique advantages over the PSARP approach:

a. Comfortable position of the patient and avoidance of awkward manipulation in jackknife prone position and its complications[4]

b. The procedure is technically more precise with much smaller size of incision and minimal invasion of tissues posterior to the neoanus as compared to PSARP, where the incision extends backward up to the coccyx and amount of tissue dissection is more. The levator ani is not divided in ASARP

c. The midline incision ends at posterior limit of the proposed neoanus and only the anterior aspect of the sphincteric muscle complex is divided, and the posterior fibers are left intact. Thus, the continence mechanism is more preserved as compared to PSARP, in which incision extends backward and posterior aspect of the muscle complex is also divided

d. During ASARP, separation of the fistula from the adherent posterior vaginal wall and rectal mobilization is under direct vision, while in PSARP, this dissection is blind

e. On the contrary, PSARP gives a better view for the posterior dissection of the rectum which is comparatively easier and does not require much exposure in VF

f. In lithotomy position, “the separation of fistula from the adherent posterior vaginal wall” is easier as the plane of dissection is easier and cleaner as compared to prone position where blood from the incision site and tissues trickles down to the junction of fistula and adherent posterior vaginal wall

g. The rectum is positioned and anchored precisely within the muscle complex

h. Accurate reconstruction of perineal body because of anatomical orientation and under direct vision

i. Comfortable position for operating surgeon

j. Moreover, due to smaller incision and absence of wound posterior to neoanus, the risk of infection is comparatively less as compared to PSARP.

The authors advocate neonatal primary ASARP as the procedure of choice in a patient of VF without associated major comorbidities. CPC associated with VF should be ruled out by a plain radiogram in the newborn period. Furthermore, in patients with low fistula-associated CPC (diagnosed with contrast enema), ASARP is not recommended. A high index of suspicion for CPC must be kept in cases with constipation or straining at stools despite an adequate size of fistulous opening.

As we believe that in addition to the proposed advantages of ASARP, the dissection (especially between the rectal wall and the posterior vaginal wall) is easier in neonates owing to clear planes of cleavage and sterile meconium leading to lesser chances of suture sepsis. Furthermore, meticulous preoperative bowel preparation is not required in neonates.[1] Outcome in terms of continence is best with meticulous dissection and repair. Results of ASARP are excellent if it is performed in neonate, although most cases present (referred) at the around 3 months of age (1–6 months). The definitive repair should be completed before 6 months when the baby is still on milk feeds. The delayed presentation affects development of voluntary, functional control over defecation; there is loss of cortical integration of somatosensory input. Ideal time for primary PSARP for VF has been described as 3 months by Menon and Rao,[1] VF is not a surgical emergency in newborn period and at 3 months risk of anesthesia are less, assessment of associated anomalies is easy, stools of milk fed babies are soft and there are lesser chances of straining at stools.[1]

Initially, we performed all operations under cover of a protective colostomy until sufficient experience was gained and it was thought to be safe to do primary ASARP. This was also proposed by Wakhlu et al. with experience of treating 1206 patients of VF by ASARP.[7] Wakhlu et al. performed primary ASARP without colostomy in 96.93% patients, while it was
85.35% in our series. The authors believe that ASARP is technically precise but difficult and requires years of experience to master the surgery.

The other important considerations for single-stage repair are thorough preoperative bowel preparation and postoperative bowel management for avoiding any bowel movement for 5 days. Preoperative bowel preparation has been recommended by other studies.[3] Regarding postoperative bowel management, there are two schools of opinion, one recommending prolonged fasting and total parenteral nutrition (TPN),[8,9] while others believe in early starting of feeds.[1,10] Wakhlu et al. postulate that early initiation of feed avoids initial bile stools from coming in contact with the suture line resulting in wound complications.[1] We also recommend prolonged fasting with TPN for 5 days in primary ASARP.

ASARP procedure is ideal for VF and low-type anorectal anomalies. In addition, it has been recommended even for the management of perineal trauma in female children[1] and redo operation for imperforate anus.[8] Furthermore, anorectal correction of a low cloaca is amenable to ASARP approach as per some authors.[11] The dissection was easier as compared to VF in 5.09% of cases with perineal fistula. Rectovaginal fistula (1.91%) required more downward mobilization of the rectum as compared to VF, and adequate exposure was accomplished during ASARP. Posterior sagittal approach is more useful in cases of higher female anomalies where more extensive downward mobilization of the rectum is mandatory.[10]

In one patient of VF associated with vaginal agenesis, ASARP was performed and fistula was used as neoanus rather than using it as neovagina. Some authors leave the VF as a neovagina and pull down the colon from above to serve as neo.rectum; these patients have increased bowel incontinence.[12] We opine that this would require laparotomy and its associated complications. Furthermore, vaginal reconstruction can be performed latter during the pubertal age group. Hence, we would not recommend this method.

VF has significantly high incidence of postoperative constipation as compared to other ARM.[10] In our experience, three patients had recurrent constipation. All responded to laxatives/enemas, anal dilatation, and toilet training.

In follow-up (3rd month), cosmetic outcome was assessed on appearance of perineum, site, size, sphincter tone, and calibration of neoanus. It was satisfactory in 95.54% of patients [Figure 6]. Stool continence was excellent, and only one patient had incontinence among 126 patients assessed at 3 years’ age group. Furthermore, 93% of cases of VF have voluntary bowel movements by the age of 3 years.[13] In one recent study, cosmetic outcomes and functional results were superior in ASARP as compared to PSARP.[14] Menon and Rao described voluntary bowel movements by the age of 3 years in 100% of cases of VF,[3] the authors recommend gentle finger dissection with restricted use of cautery (only for hemostasis) for inflicting minimal damage to neurovascular bundles/fibers. We believe that excellent continence outcomes were because of least injury inflicted to neurovascular fibers by limited use of cautery.

In 85.35% of patients with single-stage ASARP, colostomy could be avoided, and thus, total cost of treatment and total duration of hospital stay and incidence of major complications in relation to colostomy formation and postoperative adhesion obstruction could be substantially reduced with satisfactory results. Satisfactory outcomes with similar results with primary ASARP were also reported by other authors.[1,4,6-8] Postoperative complications following ASARP such as wound dehiscence, retraction, and anterior migration of the rectum can be minimized by adequate mobilization and separation of the rectum from the posterior vaginal wall and fixation of the anorectum to muscle complex and sphincters at 2–3 levels. This is also advocated by Peña et al.; tense anastomosis result in all these complications.[15]

Intraoperatively, only three cases in our study (during learning phase) had vaginal tear during dissection which was meticulously repaired to prevent recurrent fistula. Chances for recurrent fistula are minimal if rectum remains intact during dissection and does not retract later.[16]

Continence can only be judged after colostomy closure has been done and toilet training on long-term

Figure 6: Postoperative photographs with small scar and satisfactory cosmetic outcome
follow-up.\textsuperscript{[17]} If anatomical repair is good, functional outcomes would be superior too.\textsuperscript{[1,17]} Incontinence in one patient in the study was attributed to bladder and bowel involvement due to associated myelomeningocele. The results of ASARP have been satisfying in our study, except for only 1.27\% (2) of cases requiring revision by ASARP. Revision surgery is technically difficult because of obliteration of tissue planes and retraction of the rectum.\textsuperscript{[1]} We performed the second surgery after 6 months, and our patients had satisfactory recovery. Our results were similar to those of Wakhlu et al.,\textsuperscript{[7]} Rasool et al., and Aziz et al.\textsuperscript{[10,16,17]}

**Conclusions**

ASARP resulted in satisfactory outcome (95.54\% cases) with both single and staged procedures. It is an excellent procedure for VF in females at all ages as it results in easy separation of the posterior vaginal wall from the rectum under direct vision (the most important step of the operation), optimal correction with minimal sphincteric damage, and convenient supine approach during conduct of anesthesia and without additional complexity or difficulties. It has excellent cosmetic and functional outcomes in terms of continence (bowel function). Primary ASARP is quick and effective and does not require colostomy if performed after due preoperative gut preparation and by an experienced pediatric surgeon. Thus, it avoids the anticipated complications of colostomy. However, the procedure should be performed under cover of a protective colostomy till reasonable skill is achieved. The authors advocate neonatal primary ASARP as the procedure of choice in VF without associated major comorbidities presenting early in the neonatal period as sterile meconium has the advantage of lesser chances of postoperative wound infection/sepsis and also dissection is easier in them as compared to older babies. We recommend primary ASARP for the management of VF and perineal fistula in females.

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**Conflicts of interest**

There are no conflicts of interest.

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