IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 21, Issue 3 Ser.10 (March. 2022), PP 19-22
www.iosrjournals.org

"An Evaluation of the Management of Anorectal Malformation with Rectovestibular Fistula by Single Stage Correction Technic"

Dr. Md. Shahin Reza[1], Prof. Dr. Shah Alam Talukder[2], Dr. Sharmin Jahan[3], Dr. Nazrul Islam Akash[4], Dr. Elora Afroz Leema[5]

[1]*Assistant Professor, Paediatric Surgery, Mugda Medical College and Hospital, Dhaka, Bangladesh.*
[2]*Professor of Paediatric Surgery, Former Head of Department of Paediatric Surgery, Mymensing Medical College and Hospital, Mymensing, Bangladesh.*
[3]*Assistant Professor, General Surgery, Mugda Medical College and Hospital, Dhaka, Bangladesh.*
[4]*Consultant, Paediatric Surgery, Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh.*
[5]*Assistant Professor, Radiology and Imaging, National Institute of Cardiovascular Diseases (NICVD), Dhaka, Bangladesh.*
Corresponding Author: Dr. Md. Shahin Reza, Assistant Professor, Paediatric Surgery, Mugda Medical College and Hospital, Dhaka, Bangladesh.

Abstract
Background: *Anorectal malformation constitutes one of the commonest congenital anomalies encountered in the newborn. Anorectal malformations include a wide spectrum of defects in the development of the lowest portion of the intestine and urogenital tracts. In every year, single stage correction of anorectal malformation with rectovestibular fistula is being applied among a good number of patients. But we have not enough research-based data regarding the outcomes, complications and costing of this surgical procedure.*
Aim of the study: *The aim of this study was to evaluate the outcomes, complications and costings of the single stage correction of anorectal malformation with rectovestibular fistula.*
Methods: *This prospective observational study was conducted in the department of Paediatric Surgery, Mugda Medical College and Hospital, Dhaka, Bangladesh during the period from December 2019 to October 2021. In total 16 patients with rectovestibular fistula (RVF), underwent single stage correction were included as the study subjects. This study was approved by the ethical committee of the mentioned hospital. Data regarding demographic status, clinical status, complications and costing were recorded. All data were collected, processed and analyzed by using MS Office and SPSS version 23 programs as per need.*
Results: *In this study, among total participants, postoperative perineal wound infection was found in 25% patients (n=4). Maximum incidence of vaginal tear during separation was found in 1-3 years of age (20%). Besides these, 10% incidence was found in <1 years' age group. As complications, wound infection was found in 25% and mild pyrexia was found in 18.75% patients. Finally, in analyzing the hospitalization duration and cost of participants we observed, the average hospitalization length was 7 days and average treatment cost was 10 thousand taka (BDT)/patient.*
Conclusion: *As per the findings of this study we can conclude that, single stage correction is a cost effective, less hazardous treatment procedure for the management of anorectal malformation with rectovestibular fistula.*
Keywords: *Single stage correction, Anorectal malformation, Rectovestibular fistula, Complication.*

Date of Submission: 12-03-2022 Date of Acceptance: 27-03-2022

I. Introduction

Anorectal malformation constitutes one of the commonest congenital anomalies encountered in the newborn. The enormity of the problem can be judged by the fact one out of every 5000 new born babies is liable to have this condition [1]. Despite a better understanding of embryology, the anatomy, and the physiology of continence, the management of children born with RVF continuous to be a surgical challenge and is still fraught with numerous complications [2]. It is very difficult to delineate precisely the anatomy of the female genitalia and confirm the number of openings in a neonate born with imperforate anus [3]. Patients with RVF are frequently erroneously diagnosed as having rectovaginal fistula. Rectovaginal fistula is almost non-existent defect present less than 1% of all cases [4]. It is customary to create a covering colostomy before the definitive

repair to protect the neoanus [5]. But a number of surgeons repair these defect without a protective colostomy. The advantage of this approach consists in avoiding the potential morbidity of a colostomy and reducing the number of operations from three (Colostomy, definitive operation, colostomy closure) to one. Many patients do well with a single primary operation without a protective colostomy. [5] The optimal management of this malformation would depend on an appreciation of the collective experience of surgeons as reported in literature [6]. Judgment on the usefulness of any surgical procedure for imperforate anus rests ultimately on the effect on future bowel function, specially the level of continence. Traditional PSARP performed in first year of life after neonatal colostomy was still associated with significant rate of incontinence [7]. The complexity of RVF is frequently underestimated; patients with RVF born with the potential bowel control, thus effort should be made to give these patients the best opportunity to have a successful reconstruction with a single operation. [8] Several advantages of this approach over the staged procedures are one operation, one anesthesia and no potential morbidity of a laparotomy and colostomy [9].

II. Methodology

This prospective observational study was conducted in the department of Paediatric Surgery, Mugda Medical College and Hospital, Dhaka, Bangladesh during the period from December 2019 to October 2021. In total 16 patients with rectovestibular fistula (RVF), underwent single stage correction were included as the study subjects. This study was approved by the ethical committee of the mentioned hospital. As per the exclusion criteria of this study, patients with anorectal malformation with RVF with previous colostomy and patients with multiple congenital anomalies were excluded. In operation procedure after G/A catheterization was done. Patient positioned in prone jack knife position and painting and draping were done. Multiple silk sutures were placed at the edge of the fistula in order to exert uniform traction on the rectum to facilitate its dissection. The dissections were performed using a very thin needle cautery and suction, which allowed each of the little vessels that were encountered during the procedure cauterized meticulously. Once the dissection had been completed, the electrical stimulator (Low voltage diathermy) was used to determine the limits of the sphincteric mechanism. Data regarding the history and clinical examination, necessary laboratory and special investigations of all the patients were recorded. Then operations were done and subsequently followed up of the patients for next 3 months. All necessary investigations were done to establish the diagnosis, for planning of the surgery, to detect associated anomalies and for G/A fitness. Data regarding demographic status, clinical status, complications and costing were also recorded. All data were collected, processed and analyzed by using MS Office and SPSS version 23 programs as per need.

III. Result

This prospective observational study was conducted in the department of Paediatric Surgery, Mugda Medical College and Hospital, Dhaka, Bangladesh during the period from December 2019 to October 2021. In this study, among total 16 participants with rectovestibular fistula (RVF), underwent single stage correction, maximum incidences were found in <1 years' age group which was in 62.50%. Then 31.25% and 6.25% incidences were found in 1-3 and 4-6 years' age groups respectively. The mean (±SD) age of the participants was 1.21±1.50 years. In this study, among total participants, postoperative perineal wound infection was found in 25% patients (n=4). In analyzing the frequencies of vaginal tear during separation among the patients, maximum incidence of vaginal tear during separation was found in 1-3 years of age (20%). Besides these, 10% incidence was found in <1 years' age group. As complications, wound infection was found in 25% and mild pyrexia was found in 18.75% patients. Finally, in analyzing the hospitalization duration and cost of participants we observed, the average hospitalization length was 7 days and average treatment cost was 10 thousand taka (BDT)/patient.

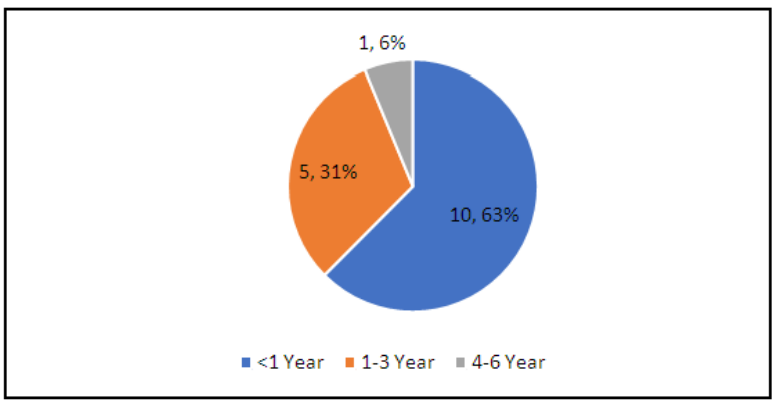

Figure 1: Age distribution of patients (N=16)

Table 1: Distribution of perineal wound infection and vaginal tear during separation among patients (N=16)

Characteristics	n	%
Distribution of perineal wound infection		
Perineal wound infection	4	25%
Vaginal tear during separation		
In <1 years' age group	1	10%
In 1-3 years' age group	1	20%
In 4-6 years' age group	0	0%

Table 2: Post-operative complication among participants (N=16)

Complications	n	%
Mild pyrexia	3	18.75%
Wound infection	4	25%

Table 2: Average hospitalization duration and cost of participants (N=16)

Participants	Hospitalization	Average hospital stays	Average cost
Total (n=16)	Once	07 days	10000 BDT

IV. Discussion

The aim of this study was to evaluate the outcomes, complications and costings of the single stage correction of anorectal malformation with rectovestibular fistula. There is evidence that, cortical integration of somatosensory input from anal skin may be lost after the third or fourth month of life, if unused. The primary advantages of performing anorectoplasty without a colostomy are the avoidance of colostomy related complications and multiple procedures. [10] Moore first describes saggital anorectoplasty without colostomy in newborn with excellent surgical result. In a study they claimed, primary PSARP avoids the frequently cited performance of a colostomy, such as wound infection, dehiscence and silage. [7] Efficacious and cost effective care of patients with anorectal malformations begin with a carefully thought out plan in the neonatal period. The traditional surgical correction entails a diverting colostomy, usually in the neonatal period, PSARP at about a year, and closure of colostomy several months later. The traditional 3 operations are of immense disadvantages to the baby, the parents and the entire household. Three operations mean 3 admissions, which mean the mother is separated from the rest of the family, and nobody may be able to take proper care of the rest of the others children. The cost is also significant. It is difficult enough for many of these peasant parents to pay for one operation, but it is more difficult when the cost of one operation may be equivalent to the parent's annual income. It would therefore be an advantage if the patients can have only one admission, no colostomy is done and the parents pay only once for an operation. In this study, among total 16 participants with rectovestibular fistula (RVF), underwent single stage correction, maximum incidences were found in <1 years' age group which was in 62.50%. Then 31.25% and 6.25% incidences were found in 1-3 and 4-6 years' age groups respectively. These findings are consistent with other study [5]. In analyzing the frequencies of vaginal tear during separation among the patients, maximum incidence of vaginal tear during separation was found in 1-3 years of age (20%). Besides these, 10% incidence was found in <1 years' age group. These findings are consistence with other study (4%) [10]. The patients underwent early definitive repair achieved good fecal continence, which is also consistence with other study [11]. Three patients (18.75%) of us developed perineal wound infection. In another study it was 50 % [11]. It was initial study and sample size was small. Wound dehiscence less in our study probably due to good preoperative and postoperative care. In our study, the average hospital stays of each patient was 7 days. In another study, the average hospital stay was 21 days [11]. It was not explained in study. In this study, the mean operation time in definitive procedure (PSARP) was 70 minutes. In another study it was 85 minutes in definitive procedure (PSARP) [2]. In the past years, AVF was accepted to primary surgical correction without protective colostomy and RVF should be performed protective colostomy before the definitive repair [12, 13]. But, now, single-stage repair without primarily colostomy for the treatment of both AVF and RVF has been advocated by many reports [14, 15].

Limitation of the study:

This was a single centered study with a small sized sample. So, findings of this study may not reflect the exact scenario of the whole country.

V. Conclusion & Recommendation

As per the findings of this study we can conclude that, single stage correction is a cost effective, less hazardous treatment procedure for the management of anorectal malformation with rectovestibular fistula. Considering some good features like less complication, shorter treatment duration as well as cost effectiveness we should encourage doing single stage correction of RVF. For getting more specific findings we would like to recommend for conducting similar more studies with larger sized samples in several places.

References

[1]. Wakhlu, A. K. "Management of congenital anorectal malformations." Indian pediatrics 32.11 (1995): 1239-1242.
[2]. Pratap, Akshay, et al. "One-stage correction of rectovestibular fistula by transfistula anorectoplasty (TFARP)." World journal of surgery 31.9 (2007): 1894-1897.
[3]. Yogesh Kumar Saein and Arvind Sinha, 2002, Two Orifices in the Perineum of a Girl with Imperforate Anus: Possibility of Uterovaginal Agenesis Associated With Rectovestibular Fistula, Journal oh Pediatric Surgery, Vol 37, no 8, pp 1217-1219.
[4]. Sarin, Yogesh Kumar, and Arvind Sinha. "Two orifices in the perineum of a girl with imperforate anus: possibility of uterovaginal agenesis associated with rectovestibular fistula." Journal of pediatric surgery 37.8 (2002): 1217-1219.
[5]. Menon, Prema, and Katragadda Lakshmi Narashima Rao. "Primary anorectoplasty in females with common anorectal malformations without colostomy." Journal of pediatric surgery 42.6 (2007): 1103-1106.
[6]. Adejuyigbe O, et al. (2002) Rectovestibular Fistula With Absent Distal Vagina in an Adolescence Nigerian Girl. Journal of Pediatric Surgery, Vol 37: pp 1479-1480.
[7]. Mirshemirani A, et al. (2007) Primary Posterior Sagittal Anorectoplasty without colostomy in neonates with high lmperforate anus. Acta Medica Iranica, vol.45: pp 121-125.
[8]. Marc A Levitt et al, (2007) Imperforate Anus: Surgical Perspective, eMedicine, section 1-12.
[9]. Albanese CT, et al. (1999) One stage correction of high imperforate anus in the male neonate. J Pediatr Surg, vol. 34:pp834-836.
[10]. Pratap, Akshay, et al. "One-stage correction of rectovestibular fistula by transfistula anorectoplasty (TFARP)." World journal of surgery 31.9 (2007): 1894-1897.
[11]. Adeniran JO, (2002) One stage correction of Imperforate anus and Rectovestibular Fistula in Girls: Preliminary Results, Journal of pediatric surgery,vol 37:pp16-19.
[12]. Stephens FD, Smith ED. Anorectal malformationsin children. Chicago: Year Book Medical Publishers; 1971.
[13]. StephensFD, Smith ED, Paul NW. Anorectal malformationsin children: update 1988. New York: Alan R Liss; 1988.
[14]. Patwardhan N, Kiely EM, Drake DP. Colostomy for anorectal anomalies: high incidence of complications. J Pediatr Surg 2000; 36:795-8.
[15]. Loulah MA, Sultan TA, Zeina WO. Primary versus multistage repair of congenitalrectovestibular fistula. Menoufia Med J 2015; 28:813-7.

Dr. Md. Shahin Reza, et. al. "An Evaluation of the Management of Anorectal Malformation with Rectovestibular Fistula by Single Stage Correction Technic." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 21(03), 2022, pp. 19-22.