Indications and complications of colostomy in newborn: our experience

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ABSTRACT

Background: The aim of the present study was to evaluate the indications, complications and outcome of colostomy in newborn patients.

Methods: This is a descriptive, retrospective study carried out in the Department of Pediatric surgery, Gandhi Medical College Bhopal to evaluate acceptance and outcome of colostomy in newborn over a one year period from March 2018 to March 2019. All newborn with diagnosis of anorectal malformation, Hirschsprung’s disease and other emergency conditions underwent transverse loop colostomy by expert and trained pediatric surgeon.

Results: Out of 40 patients operated complications of colostomy was seen in 18 (45%) patients. Most common complication was skin excoriation in 08 patients (20%), bleeding from stoma site in 02 (05%) cases. Stoma prolapse occurred in 02 (05%) patients. Wound infection, dehiscence, stomal stenosis and parastomal hernia was seen in one patient each 2 (2.5%) and 2 (0.5%) patient died due to multiple congenital anomalies.

Conclusions: Colostomy in children is associated with significant morbidity in developing country. To minimize these problems, the pediatric surgeon should focus on the management and early closure of a colostomy.

Keywords: Anorectal malformation, Colostomy, Hirschsprungs disease

INTRODUCTION

A colostomy is defined as surgical procedure made in the large colon to convert the pathway of feces and flatus to the exterior. In newborn and paediatric patients mostly colostomy is done in the cases of congenital anomalies like anorectal malformation, Hirschsprungs disease, intestinal atresias. The preponderance of congenital indications for colostomies is typical as most busy paediatric surgery units where Hirschsprung’s disease and anorectal anomalies constitute the bulk of colostomy workloads. The basic purpose of performing the colostomy is to divert the fecal stream till the definite procedure is performed. A variety of complications have been reported even with careful techniques, there is marked morbidity and mortality associated with creation of colostomy. This life-saving operation is not a minor surgical procedure and many of its complications are preventable with good surgical technique and qualitative follow-up. Despite the most commonly performed procedure in children few studies have been done on this subject. The aim of this study is to analyze the complications in children and neonates.

METHODS

This is a descriptive, retrospective study carried out in the Department of Pediatric Surgery, Gandhi Medical College Bhopal to evaluate acceptance and outcome of colostomy in children over a one year period from March 2018 to March 2019. All the patients admitted in paediatric surgery department requiring colostomy were included. In this series patient's demographic profile, indications for colostomy, colostomy complications, management were noted. The procedure was performed by consultant and trained pediatric surgeon. Already operated patients were excluded from the study. In each case detailed history, physical examination was carried
out followed by relevant investigation. In this study transverse loop colostomy was performed in all the patients. The operation was done under general anesthesia, supraumbilical transverse incision was made and transverse loop colostomy made in all the patients. The data obtained were analyzed using SPSS.

RESULTS

In this series anorectal malformations and Hirschsprungs disease were the most common indications of doing transverse loop colostomy. Out of 40 patients operated there were 25 (62.5%) male and 15 (37.5%) female patients. Complications of colostomy were seen in 18 (45%) patients. Most common complication was skin excoriation in 8 patients (20%), bleeding from stoma site was seen in 2 (05%) cases. Stoma prolapse occurred in 2 (05%) patients, Wound infection, dehiscence, stomal stenosis and parastomal hernia was seen in one patient each. 2 (0.5%) patient died due to multiple congenital anomalies.

Table 1: Sex distribution of patients (n=40).

<table>
<thead>
<tr>
<th>Gender</th>
<th>No. of patients</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>25</td>
<td>62.5</td>
</tr>
<tr>
<td>Female</td>
<td>15</td>
<td>37.5</td>
</tr>
</tbody>
</table>

Table 2: Indications of colostomy (n=40).

<table>
<thead>
<tr>
<th>Indication of colostomy</th>
<th>No. of patients</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anorectal Malformation</td>
<td>30</td>
<td>75</td>
</tr>
<tr>
<td>Hirschsprungs disease</td>
<td>08</td>
<td>20</td>
</tr>
<tr>
<td>Acquired conditions</td>
<td>02</td>
<td>05</td>
</tr>
</tbody>
</table>

Table 3: Complications of colostomy (n=18).

<table>
<thead>
<tr>
<th>Complications</th>
<th>No. of patients</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parastomal excoriation</td>
<td>08</td>
<td>20</td>
</tr>
<tr>
<td>Stomal bleeding</td>
<td>02</td>
<td>05</td>
</tr>
<tr>
<td>Stoma prolapse</td>
<td>02</td>
<td>05</td>
</tr>
<tr>
<td>Wound infection</td>
<td>01</td>
<td>2.5</td>
</tr>
<tr>
<td>Stomal stenosis</td>
<td>01</td>
<td>2.5</td>
</tr>
<tr>
<td>Wound dehiscence</td>
<td>01</td>
<td>2.5</td>
</tr>
<tr>
<td>Parastomal hernia</td>
<td>01</td>
<td>2.5</td>
</tr>
<tr>
<td>Expired</td>
<td>02</td>
<td>05</td>
</tr>
</tbody>
</table>

DISCUSSION

Colostomy is a common procedure performed in paediatric surgery. It may be associated with morbidity and mortality.6 Over 90% of our childhood colostomies were performed for large bowel obstruction from Hirschsprung's disease or anorectal anomalies in keeping with the reports of Millar et al from South Africa.7 The most frequent complications of colostomy are peristomal dermatitis, festering of parastomal fiber, parastomal hernia, loss of bowel and stricture scar of colostomy.8,9 The worldwide incidence of colostomy-related complications ranges from 28-74% in various studies. The overall morbidity from colostomy has been reported to be as high as 42-75%.10-12 Complications of colostomy in this study was seen in 18 (45%) patients. The most common complication in this study was parastomal skin excoriation which occurred in 8 (20.0%) patients. The causes for a high incidence of skin excoriation in our study were due to poor care of our patients with colostomy as most of these patients were uneducated and from remote areas. Barrier dressing and local skin ointment with petroleum jelly and zinc oxide was advised to all patients. Local bleeding occurred in 2 (5%) of our patients and was due to sepsis and jaundice, however It was managed with compression dressing. Other common complication observed was colostomy prolapse 2 (5%) as and it was most commonly seen in right loop transverse colostomy. Prolapse most commonly affected distal limb because distal limb is dilated and hypertrophy especially in Hirschsprung’s disease. Wound sepsis which includes local wound infection, occurred in one patient (2.5%) most likely occurred due to improper nursing care. The septicaemia patients were treated with broad-spectrum antibiotics. Stomal stenosis occurred in one patient (2.5%). The reasons for stenosis were due to a small opening that was created for colostomy and ischemia of margins of stoma which resulted in stenosis. A parastomal hernia developed in one patient (2.5%) and usually occurred in patient with poor abdominal wall muscle and with local infection 2 (5%) patients died because of associated cardiac anomalies. All the colostomised newborn babies with failure to thrive were admitted for nutritional rehabilitation by supplementary feeding under care of pediatric nutritionist.

CONCLUSION

Colostomy in children is associated with significant morbidity in developing country. To minimize these problems, the pediatric surgeon should pay close attention to the, management and early closure of a colostomy. Adequate pre-operative consent of parents, counseling, care gives optimum results.

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Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

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