

MANAGEMENT OF COLOSTOMIES IN INFANCY

Kifayat Khan, Mohammad Yunas Khan, Tariq Waheed

*Department of Paediatric Surgery,
Postgraduate Medical Institute,
Lady Reading Hospital, Peshawar.*

ABSTRACT

Objectives: The aim of the study was to assess the complications of colostomies and sort out the measures for the prevention of various complication.

Material and Methods: This is a prospective study performed on 88 patients in whom colostomies were performed for various problems and were admitted to Paediatric surgery unit of Lady Reading Hospital Peshawar during the year January 2000 to December 2000.

Results: Majority of the patients had Anorectal malformation and Hirschsprung's disease. Colostomies performed in neonatal period had a high complication rate and increased rate of mortality. Skin excoriation, colostomy prolapse, colostomy diarrhoea, and failure to thrive were the most common complications encountered.

Conclusion: Proper stoma care, education of the parents regarding the stoma care and timely treatment of diarrhoea are important factors in the prevention of various complications of colostomy.

Key words: Colostomy, Anorectal malformation, Hirschsprung's disease.

INTRODUCTION

A colostomy is an artificial opening made in the large bowel to direct faeces and flatus¹. Colostomies are commonly used in the management of congenital and acquired surgical conditions in neonates, infants and older children. Fortunately majority of these colostomies are temporary diverting colostomies but rarely permanent colostomies are also performed². Infants with high and

intermediate type of anorectal anomalies require colostomies till a definitive operation is done. Sometimes these colostomies are totally diverting if a big recto-urinary fistula is present³. We prefer to place the colostomy in the upper sigmoid because sigmoid faeces are hard so that complications can be minimized. With this type of colostomy a sufficient length of the lower segment of colon is available during the corrective pull-through procedure at a later date⁴. In Hirschsprung's disease colostomy

is performed at different sites depending on the level of aganglionosis. Colostomy not only decompresses the megacolon but also avoid the possibility of Enterocolitis^{5,6,7}. Colonic atresias are rare, and the massive dilation of the colon just proximal to the atresia may require colostomy. Other rare indications of colostomies during infancy include necrotizing enterocolitis intussusception, trauma and foreign body⁷.

MATERIAL AND METHODS

All the paediatric patients including neonates and infants who were in need of colostomy were admitted to Paediatric surgery ward and preparation started in the usual way. N/G Suction, I/V fluids & I/V antibiotics were used in patients who presented with intestinal obstruction, and were operated upon in emergency. Other patients who did not present with intestinal obstruction were operated upon on elective list after necessary preparation for surgery. Post operatively they were managed in the same way with Nasogastric suction, I/V fluids, I/V antibiotics till their complete recovery and proper functioning of the stoma when they were discharged from the Hospital with in 2-3 days after surgery. Colostomy was performed in the left iliac fossa (Fig 1) in all patients except in patients with Hirschsprung's disease, artesia and trauma where it was constructed just proximal to the diseased bowel. Totally diverting loop colostomy was performed in all cases using a skin bridge with silk 2/0. Colostomy construction and stitching were made with 3/0 silk sutures and open stoma was made at the same time. They were kept nil per orally along with nasogastric suction for 24 to 48 hours after surgery. Colostomy care was explained to parents by the concerned doctor and staff nurse during the stay of the patients that remained admitted in the ward till the discharge of the patients. The parents of every patient after discharge was given instruction to look after the stoma of their baby and bring them to the hospital for follow up examination and for any problem after ward till the defini-



Fig. 1

tive procedure and later on closure of colostomy.

RESULTS

A total of 88 patients were admitted to Paediatric surgery unit Government Lady Reading hospital in this one year time in whom colostomy was performed. There were 50 male and 38 female children from 1 hour old to 12 months old (Table-1). There were 54 patients with anorectal anomalies while 34 patients were with Hirschsprung's Disease (Table-1). Sixty-eight patients were operated upon in emergency while in 20 patients colostomy was performed on elective list. Loop colostomy was performed in all cases. 22(25%) patients out of 88 died post operatively, 18(33.3%) from Anorectal agenesis group and 4(11.76%) from Hirschsprung's disease group showing 25% mortality (Table-2). Post operative recovery was quick in patients with ano-rectal agenesis as compared to patients with Hirschsprung's disease. Diarrhoea, skin excoriation (Fig-2), colostomy prolapse

MALE TO FEMALE RATIO IN PATIENTS IN WHOM COLOSTOMY WAS PERFORMED.

Disease	No. of patients	Male	Female
Ano-rectal anomalies	54(61.36%)	22	32
Hirschsprung's disease	34(38.63%)	28	06
Total	88	50	38

TABLE - 1

(Fig 2) and hair around the stoma were the most common complications seen in these patients (Table-3). Petroleum jelly was the common agent used in all patients to protect the skin around the stoma. Phototherapy, antifungal cream and antidiarrhoeal were the other agents, which were used to treat the skin excoriation.

DISCUSSION

Colostomy is a life saving procedure, which is practiced from ancient times⁸. Though it is life saving in various conditions but it has numerous complications including death of the patient^{9,10}. It was observed in this study that colostomies performed for imperforate anus had great complication and mortality rates because majorities of these patients were neonates. Some of the patients with ano-rectal agenesis were associated with other congenital anomalies such as cardiac defects, trachioesophageal fistula and neural tube defects¹¹. Any surgical procedure in the

MORTALITY RATE OF COLOSTOMY IN PATIENTS WITH ANO-RECTAL AGENESIS & HIRSCHSPRUNG'S DISEASE.

Disease	No. of cases	Died	% age
Ano-rectal anomalies	54	18	33.3%
Hirschsprung's disease	34	04	11.76%
Total	88	22	25.00%

TABLE 2



Fig. 2

newborn period carries a high mortality, because such patients are prone to develop septicemia, hypoglycemia, hypothermia, electrolyte imbalance etc, which are the major causes of death in the newborn period¹². Colostomies performed in newborn patients with Hirschsprung's disease had a similar complication rate as in ano-rectal agenesis patients but older children had decreased mortality and complication rate. Colostomy diarrhoea & failure to thrive was

VARIOUS COMPLICATIONS OF COLOSTOMY SEEN IN INFANTS WITH ANORECTAL ANOMALIES AND HIRSCHSPRUNG'S DISEASE.

Complication	Anorectal Anomalies	Hirschsprung's Disease
Skin Excoriation	39(72.20%)	26(76.4%)
Colostomy prolapse	20(37%)	25(73.5%)
Hair around stoma	13(33.3%)	13(52.9%)
Colostomy diarrhoea	13(33.3%)	22(64.7%)
Retraction	6(11.10%)	5(14.7%)
Stenosis	5(9.25%)	3(13.3%)
Bleeding	4(7.4%)	2(5.3%)
Wound infection	3(5.5%)	2(5.3%)
Weight Loss	2(3.7%)	2(5.3%)
Septicemia	3(5.5%)	13(44%)
Death	13(33.3%)	4(11.7%)

TABLE - 3

commonly observed in Hirschsprung's disease. Colostomy prolapse, skin excoriation, diarrhoea, retraction stenosis, bleeding, wound infection, wound dehiscence para-colostomy hernia & adhesion obstruction were the common conditions seen equally in both groups of patients. Most of the complications were of such a nature that could be managed by the parents themselves such as application of vaseline on the skin around the stoma to prevent skin excoriation & treatment of diarrhoea. Prolapse colostomy without obstruction was managed conservatively, while others with obstruction and retraction of colostomy were managed by revision of colostomy. The results of our study show a high complication rate in both groups of patients and cannot be compared with the world literature but still they are encouraging in our set up, where there are no neonatal ICU facilities along with lacking the facilities of neonatal anesthesia.

The advent of neonatal and paediatric anaesthesia and intensive care facilities will improve the results, which can be compared with the world literature. Education of parents and general awareness in the public regarding the management of stoma is another factor which will improve the conditions preventing various complications of colostomy^{13,14,15}. As most of the colostomies are temporary but in our society it is a nuisance & socially not acceptable to the parents. They are always fed up from the managements of colostomy, making frequent visits to the hospital hoping to get rid of the stoma. Once the definitive procedure of the primary disease is completed, the colostomy should be closed as early as possible to avoid the various complications and social nuisance¹⁶.

Address for Correspondence:

Dr. Kifayat Khan,
Department of Paediatric Surgery,
Post Graduate Medical Institute,
Lady Reading Hospital, Peshawar.

REFERENCES

1. Abdominal stomas. Indications, operative techniques and patient care. Jeroma S Abrams 1990.
2. Krestchmer KP. The intestinal stoma (indications. Operative methods, care, Rehabilitation) Vol. 24 In: Rebert PA (ed). Major proscem in clinical surgery. Philadelphia, WB Saunders 1991.
3. Bishop HC. Colostomy in the newborn. Am. J. Surg 1995; 101: 642.
4. Cook RCM. Anorectal malformation. In: Rob and Smith 's operative surgery. Paed Surgery 4th ed. Butterworth London, 1987; 348.
5. Reding R, et al. Hirschsprung's disease. Paed Surgery 1997; 1221.
6. Abrahamian FP, et al. Chronic Constipation in childhood: J. Paediatric surgery 1984; 3: 460.
7. Andrass, et al. Rectal suction biopsy for the diagnosis of H Disease. Ann. Surgery 1981; 193: 419.
8. Ein SH: Divided loop Colostomy that does not prolapse. Am J Surg 1984; 147: 250.
9. Lister J, et al. Colostomy complications in children. Practitioner 1983; 227.
10. Alaish SM et al: Loop enterostomy in newborns with necrotizing enterocolitis, J AM Coil Surg 1996; 182: 457.
11. Al- Saleem AH, Grant C, Khawaja S: Colostomy complications in infants and children, Int Surg 1992; 77 : 164.
12. Wilkins S, Pena A. The role of colostomy in the management of anorectal malformations. Pediatr Surg Int 1988; 3 : 105.
13. Mollitt DL, et al. Colostomy complications in children. Arch Surg 1980; 31:110.
14. Morris DM, Rayburn D. Loop Colostomies are totally diverting adults . Am J Surg 1991; 161: 668.
15. Pearl RK, et al. Early local complications from intestinal stomas. Arch Srug 1985; 120: 1145.
16. (11) Wilkins S, Pena A: The role of colostomy in the management of anorectal malformations. Pediatr Surg Int 1988; 3:105.