Management of Recurrent Post Redo Pull-Through Stricture – What is the Option?

Sanjay Khope · Subash J. Dalal

Received: 3 November 2009 / Accepted: 25 April 2012 / Published online: 12 May 2012
© Association of Surgeons of India 2012

Abstract Redo pull-through procedures are not without their complications and have results that are satisfactory only in 70 % to 80 % of cases. Persistent obstructive symptoms due to anastomotic stricture are a common indication for redo operation in 30 % to 50 % of cases. Management of stricture following a redo operation can still be a complicated issue with limited available options. One such case is presented and management discussed.

Keywords Redo pull-through · Hirschsprung's disease · Recurrent stricture

Introduction

Although a minority of children undergoing a pull-through procedure have poor results, many of these benefit from reoperation. Overall outcomes for patients who require a redo pull-through are generally not as good as those undergoing an initial pull-through. Complications associated with

repeat redo operation, though should not occur in modern-day practice, can lead to extensive perineal scarring and fecal incontinence causing difficulties in the management. Stricture following a repeat redo operation may leave no options for permanent colostomy. Ileal segment seems to be ideal choice for treatment of long neo-anorectal stricture in such situations, rarely faced by pediatric surgeons.

Case Report

A 10-year-old girl was referred for management of rectal stricture following two previous redo operations for Hirschsprung's disease performed elsewhere. She underwent a right transverse colostomy in the neonatal period. Then the initial procedure was Soave operation performed at the age of 9 months. The child developed a rectal stricture (Fig. 1), and hence a redo Soave procedure was performed around 2 years of age. Subsequently, rectal dilatation was performed several times under general anesthesia. The colostomy could not be closed due a tight recurrent stricture (Fig. 2).

A second redo was performed at the age of 4 years using Soave technique. The patient had a scarred perineum following three pull-through operations and the complications associated with sequential surgeries. Dilatation of the stricture was again attempted several times. During this period, she underwent another laparotomy for adhesive intestinal obstruction at the age of 9 years before being referred to us. Abdomen had a right transverse colostomy with paramedian scars of previous surgeries, and the perineal examination showed a puckered indrawn scarred perineum and anal opening showed a tight stricture just proximal to the anal verge. Distal cologram showed a virtually straight left colon with a short transverse colon and linear stricture along the entire length of neo-anorectum. In view of four previous laparotomies and

S. Khope (✉)
Vintage Hospital,
Panaji, Goa, India 403 002
e-mail: sairajsk@yahoo.com

S. Khope
e-mail: sairajsk@gmail.com

S. J. Dalal
Jaslok Hospital,
URMI, 10th Floor, 65 Worli Sea Face,
Mumbai, Maharastra, India 400 025

Present Address:

S. Khope
Shalini, La Marvel Colony, Raj Bhavan Rd,
Donapaula, Goa 403004, India

Fig. 1 Stricture with mega rectum following first pull-through operation

anticipated extensive adhesions, we decided to do a minimal procedure using Duhamel technique. An 8 cm long segment of ileum was isolated 5 cm proximal to ileocecal junction with intact vascular pedicle through transverse suprapubic incision scar of previous surgery, and its distal end was anastomosed in end-to-side fashion to the posterior rectal wall just below the stricture after stricturotomy. The proximal end was anastomosed to the posterior rectal wall above the linear stricture.

Fig. 2 Linear stricture following redo pull-through operation

The intervening posterior rectal wall and anterior ileal wall were crushed using Duhamel clamp which was left in situ for spontaneous side-to-side anastomosis. The clamp came out after 9 days with uneventful recovery.

After a month the right transverse colostomy was closed and a Malone procedure was performed simultaneously to manage fecal incontinence associated with multiple previous surgeries and perineal scars. The child did well and has since been free from soiling, has joined school, and growing well 4 years after this procedure.

Discussion

A vast majority of children undergoing pull-through procedure do well, but 5 % still have poor results, and reoperation has been indicated in such cases. While retained aganglionic segment, severe strictures, dysfunctional bowel, and intestinal neuronal dysplasia traditionally require a redo operation [1–6], not all cases do well. In addition, there are patients with marked dilatation of rectosigmoid colon secondary to years of constipation, and this bowel is unable to regain its muscular tone. Overall outcomes for patients who require a redo pull-through are generally not as good as those undergoing an initial pull-through. However, in a number of series 70–80 % of patients can expect a reasonable improvement in stooling function following a redo pull-through procedure [1–7]. Strictures of neo-anorectum unresponsive to dilation [7] may complicate the outcome of redo operations. Nevertheless the incidence of incontinence for stool is considerably higher in this group of patients. Although a large formation of scars in the pelvis resulting from the initial operation, myectomies, dilatations, and other surgical modalities renders a redo revision more difficult, redo Duhamel pull-through procedure is able to provide the solution [8]. Fecal incontinence is also likely complication due to anal canal damage [7].

Faced with long stricture, three pull-through operations and severe bowel adhesions requiring adhesiolysis, the authors feel that with Duhamel technique, the surgery could be accomplished with minimal dissection by using an ileal segment. Since perineal muscles were scarred from previous multiple surgeries, combining this with Malone procedure had added advantage of fecal continence, without soiling.

Acknowledgments Authors thank Dr. R.G. Chodanker, MD, for his help in the management of this case.

References

1. Langer JC (1999) Repeat pull-through surgery for complicated Hirschsprung's disease: indications, techniques and results. *J Pediatr Surg* 34:1136–1141

2. van Leeuwen K, Teitelbaum DH, Elahalaby EA, Coran AG (2000) The long-term follow-up of redo pull-through procedures for Hirschsprung's disease. *J Pediatr Surg* 35:829–834
3. Weber TR, Fortuna RS, Silen ML, Dillon PA (1999) Reoperation for Hirschsprung's disease. *J Pediatr Surg* 34:153–156
4. Wilcox DT, Kiely EM (1998) Repeat pull-through for Hirschsprung's disease. *J Pediatr Surg* 33:1507–1509
5. Langer JC (2005) Persistent obstructive symptoms after surgery for Hirschsprung's disease: development of a diagnostic and therapeutic algorithm. *J Pediatr Surg* 40(5):888–889, author reply 890
6. Teitelbaum DH, Coran AG (2003) Reoperative surgery for Hirschsprung's disease. *Semin Pediatr Surg* 12(2):124–131
7. Peña A, Elicevik M, Levitt MA (2007) Reoperations in Hirschsprung disease. *J Pediatr Surg* 42(6):1008–1013
8. Schweizer P, Berger S, Schweizer M, Holschneider AM, Beck O (2007) Repeated pull-through surgery for complicated Hirschsprung's disease—principles derived from clinical experience. *J Pediatr Surg* 42(3):536–543