Endorectal "Pull-Through" Without Preliminary Colostomy in Neonates With Hirschsprung's Disease

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● **The diagnosis of Hirschsprung's disease in the newborn does not mandate the performance of a preliminary colostomy. Enterocolitis can be adequately and safely treated by a precise regimen of colonic irrigations. The endo-rectal "pull-through" procedure is safe and effective when performed in the neo-natal period. Long-term follow-up is necessary to evaluate possible late complications.**

INDEX WORDS: Hirschsprung's disease; endorectal pull-through.

THE management of neonatal Hirschsprung's disease usually consists of a preliminary colostomy followed by a "pull-through" procedure at a later date. Two factors have mandated this approach: (1) enterocolitis can usually be avoided or treated by early diversion and (2) delay in the performance of the "pull-through" procedure is thought to be associated with a lower incidence of complications.

During the past 10 yr we have treated 20 newborns with an endorectal "pull-through" procedure shortly after making the diagnosis of aganglionosis (Table 1). This series has included infants with and without significant enterocolitis. Only those neonates with total aganglionosis have been excluded.

MANAGEMENT

When the diagnosis of aganglionosis is confirmed or strongly suspected, a program of colonic irrigation (Fig. 1) is begun. The aim of these irrigations is to keep the colon from becoming distended.[1-3] If enterocolitis is to be adequately treated or avoided, the correct technique for these irrigations must be rigorously followed. A no. 16 F Foley catheter is introduced into the rectum and gradually advanced as 60 cc of warm saline is instilled. The catheter must be passed into the right colon; this can be readily confirmed both by inspection and palpation of the infant's abdomen. Irrigation is continued until the effluent is clear. Decompression of the distended abdomen is immediate and toxicity rapidly abates in the sick infant.

After 24–48 hr, oral feedings can be instituted. Within 3–4 days a standard Neomycin-Erythromycin bowel preparation is begun.

OPERATIVE TECHNIQUE

The operative technique for endorectal "pull-through" has been well described, including several authors' modifications.[4-6] There are certain features that are worthy of emphasis. The dissection of the mucosal tunnel from above in the neonate is easy using the Freer periosteal elevator. As a result it is not difficult to dissect beyond the dentate line and produce a postoperative mucosal prolapse. Therefore, the dissection from above is stopped 1–1.5 cm above the dentate line (Fig. 2). The anus is gradually dilated until it can admit the surgeon's thumb. Four 2-0 silk stay sutures are inserted at 2, 4, 8, and 10 o'clock (Fig. 3). These sutures are inserted through the dentate line and out the perianal skin. They are invaluable both as a retractor and as a guide for the completion of the mucosal dissection. The anastamosis of the proximal segment to the rectum 5 mm above the dentate line is performed with interrupted 3-0 Dexon. The "cuff" is not drained. The urinary bladder is not a problem during the surgical procedure since it can be readily emptied by a Crede maneuver in males and females.

RESULTS

There have been no deaths or major complications; there has been no anastamotic dehiscence, "cuff" abscess or perianal fistulae. Anastomotic stricture is avoided by gentle dilatation begun on

Table 1. Age Distribution at the Time of Surgery

Days	No. of Cases
1–7	1
8–14	3
15–21	2
22–30	14
Total	20

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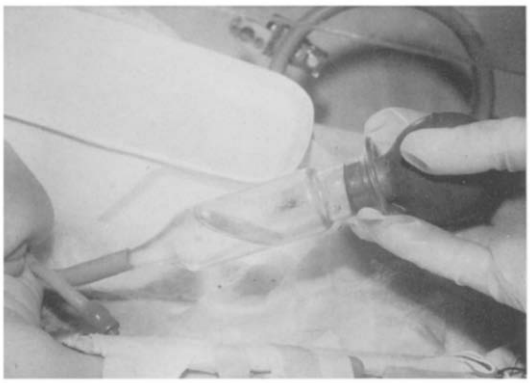

Fig. 1. Technique for colonic irrigation. Note that the Foley catheter is inserted almost to its entire length.

the 10th postoperative day using a no. 11 Bakes dilator initially and followed by gentle digital dilatation once a day. It is generally no longer required after 2 or 3 mo. Minimal to moderate perianal excoriation develops and usually subsides within 3–6 mo. It is our impression that this excoriation has been less severe than in our older children. Incontinence has not occurred.

Of the 20 cases mentioned, 10 cases were operated upon at the following hospitals: Albert Einstein College of Medicine, Long Island Jewish-Hillside Medical Center, Queens Hospital Center Affiliation, and North Shore University Hospital from 1976 to 1979. The shortest follow-up at the time of reporting was 2 mo and the longest was 2 yr. The other 10 cases were done between 1968 to 1974 among the following hospitals in the Philippines: The Children's Memorial Hospital, University of Santo Tomas Hospital, and Chinese General and Medical Center. The follow-up period for these cases was between 3 and 6 mo. Parents do not bring children back for follow-up care when they are healthy.

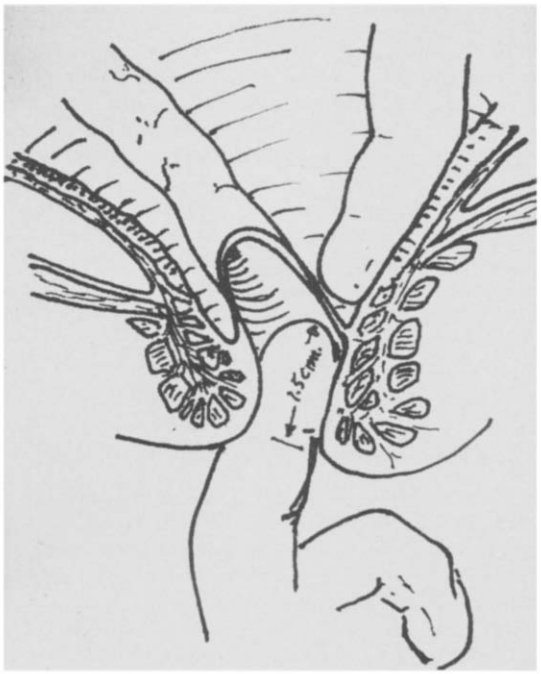

Fig. 2. The distal extent of the abdominal dissection.

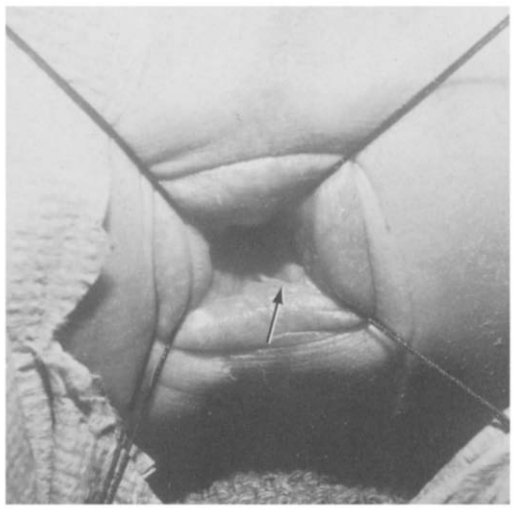

Fig. 3. Arrow indicates the point, 5 mm from the dentate line, at which mucosal dissection is started.

These twenty neonates were discharged between 5 and 10 days post-operatively without complication.

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