MODIFIED REHBEIN'S PROCEDURE FOR THE TREATMENT OF HIRSCHSPRUNG'S DISEASE *

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SUMMARY

Between June 1986-1989, 20 children with Hirschsprung's disease were admitted to Göztepe and Bakırköy Social Security Hospitals. All of these patients underwent an extensive anterior resection and colorectal anastomosis. Only in one case rectal myectomy is needed post-operatively. We haven't seen chronic constipation and incontinence. 85 % of the children had regular bowel movements. Two patients had enterocolitis and one patient had encopre-zis after surgery. Although long term results are not available yet, resecting the narrow segment further anally seems to decrease the need for rectal myectomy and anal dilatations.

Key Words: Hirschsprung's disease, Rehbein's procedure.

INTRODUCTION

The Rehbein procedure, an anterior resection and colorectal anastomosis combined with sphincter dilatation, is one of the methods for the treatment of Hirschsprung's disease (1).

It has been criticized, because a comparatively longer segment of aganglionic rectum is retained (2,3). According to Rehbein, the length of the remaining aganglionic segment is not the decisive factor, but the rectum of tenacious sphincter achalasia is (4). Because of the recurrence of sphincter achalasia; of 301 patients with Hirschsprung's disease operated by Rehbein, rectal myectomy was used in 9.3 percent patients and sphincter dilatations under anasthesia are needed in 20 - 30 percent patients (4). This high percentage of dilatations and myectomies may also be related to the relatively long aganglionic segment left behind. By thinking to overcome the post- operative constipation problem and to decrease the need for rectal myectomy and anal dilatations we dissect the rectum more extensively than Rehbein, leaving at most 2 - 4 cm aganglionic segment depending upon the age of the child, which is slightly more extensive than Holschneider's technique. (5) The aim of this paper is to present our early post-operative results of 20 patients.

MATERIALS AND METHODS

20 patients; 15 boys and 5 girls were treated during the period 1986-1989. In 8 patients; the diagnosis was established during the first month of life, and in 13 patients in the first year. 7 patients presented with later onset of symptoms. In 13 patients, out of 14, there was a history of late passage of meconium.

In all patients the diagnosis was established by full thickness surgical rectal biopsies. In 17 patients a transverse loop colostomy was constructed at the time of the diagnosis. Two patients received a distal colostomy and one patient was operated without a colostomy.

Age at radical operation was 6-12 months in 2 patients and 1-3 years in 12 patients. 6 patients had a later onset of symptoms and were operated after 3 years of age.

Surgical Procedure

We performed vigorous sphincter dilatation digitally on the operating table immediately before the surgery. The operation was performed via a low midline incision. After mobilizing the left colon, we dissected the rectum down to the levator ani muscle and left 2-4 rectal stump and performed single layer colorectal anastomosis with interrupted sutures. In the last two patients the anastomosis was constructed with a circular stapler.

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RESULTS

Early post-operative complications are shown in Table I. We had 2 anastomotic leaks. In one patient the anastomotic leak had healed without special treatment. In the other patients, since we had used the distal colostomy site for definitive operation, we have performed a colostomy after the leak. In three patients, in one a stapling device had been used, mild anastamotic narrowing was observed at 2 weeks post-operatively. In all of them, 2-3 dilatations were necessary before closing their colostomies. Two early post-operative mechanical ileus due to adhesions were treated with laparotomy and since one patient had covering colostomy, his colostomy was closed at the same stage. 2 infants developed enterocolitis. Both of them were treated with antibiotics and anal sphincter dilatations. Since they didn't respond the initial treatment, one ended with temporary colostomy and the other with sphincteromyectomy. We have listed the perforated appendicitis here, because the patient was misdiagnosed as enterocolitis before surgery.

Final status of our patients is listed in Table II. 85% of patients have normal bowel habits. We have only one patient with soiling. He is one of our early cases. We have lost his follow up until recently and come up with encoprezis. The temporary colostomy case is the one who had enterocolitis, in whom inadequate removal of aganglionic colon was found later. She is waiting for the second definitive operation. We have lost one case because of sepsis unrelated to surgery. We haven't seen any urinary incontinence nor constipation. Except two patients with enterocolitis, no vigorous dilatations under anesthesia were needed post-operatively.

DISCUSSION

The unique advantage of the Rehbein's procedure is that it is purely abdominal. It involves no dissection in the sphincter area, which should imply a low risk of post-operative incontinence. The authors using the original Rehbein's technique with longer aganglionic segment reported up to 50 % early complications in their series (6,7). On the other hand, Rehbein operation showed satisfactory function at long term follow ups in many series as shown in Table III (1,2,5,7,8).

However, the return of tenacious sphincter achalasia is still the main problem in Rehbein's procedure. Holschneider and Nagasaki reported that, internal sphincter relaxation can be achieved in about two thirds of the patients in more than one year after the Rehbein's operation (9,10). Yet many authors believe that; post-operative continence can be achieved not only by normal internal sphincter relaxation, but also by good propulsive movement which can overcome the remaining functional obstruction (10,11).

Rarely needed myectomies and decreased percentage of post-operative sphincter dilatations are the results of Holschneider's series in which the Rehbein's procedure is modified by extensive resection. (5,9,8)

We do not know how long aganglionic zone above the sphincter can be overcome by the neurons via the myenteric plexus in patients with Hirschsprung's disease. It is necessary to remove as large portion of the aganglionic segment as possible and make the anastomosis as low as possible, in order to well functional colon can overcome the obstruction. Although our long term results are not available yet, we are pleased with the early results of ours. Resecting the narrow segment further anally seems to decrease the need for rectal myectomy and anal dilatations.

However dilatational therapy should be started post-operatively to prevent the formation of secondary megacolon due to sphincter achalasia.

Table I: EARLY COMPLICATIONS

n=20

	Number of Patients
Anastomotic Leak	2
Mild Anastomotic Stricture	3
Wound Infection	1
Mechanical Ileus	2
Enterocolitis	2
Perforated Appendicitis	1

Table II: FINAL PATIENT STATUS

	Number of Patients	%
Normal Bowel Habits	17	85
Soiling	1	5
Temporary Colostomy	1	5
Death (Unrelated to Surgery)	1	5
Urinary Incontinence	0	0

Table III. LATE COMPLICATIONS OF REHBEIN TECHNIQUE IN LARGER SERIES

Author	Number	Constipation	Diarrhea	Fecal Incontinence
Rehbein (1976)	301	16	0	0
Soave (1977)	436	55	13	0
Ott and Jopping (1981)	176	14	11	22
Hecker and Holschneider (1982)	1030	106	25	22
Josteen and Festen (1986)	51	7	3	0
Total	1994	198	52	44

Josteen KFM, FestenC, vd Staak FHJ, Pediatr Surg Int 3: 204-207

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