Is Rehbein's operation an obsolete method of treating Hirschsprung's disease?


Pediatric Surgical Centre, St. Radboud Hospital and Catholic University Nijmegen, The Netherlands

Abstract. The long-term results of Rehbein's method were studied in view of our own experience with 51 children who were treated surgically between 1970 and 1985 for Hirschsprung's disease at the Pediatric Surgical Centre in Nijmegen, The Netherlands. Although good long-term results were obtained in 80% of the children, a large number of cases required very intensive postoperative care for quite some time. Fourteen percent still use laxatives regularly. We compared our results to those of other authors who had also used Rehbein's method; no significant difference was observed. In comparison with the results obtained via other surgical methods, those of Rehbein's operation seem even slightly better. Contrary to the suggestions generally made in textbooks and publications, the postoperative course of Hirschsprung's disease is not always problem-free. As yet, we have found insufficient grounds for changing our surgical technique.

Key words: Rehbein's operation

Introduction

Since 1970 nearly all children with Hirschsprung's disease at the Pediatric Surgical Centre in Nijmegen, The Netherlands, have been treated surgically using Rehbein's method [13]. This method has never found much application in the English-speaking countries, but is particularly favored in the German-speaking countries such as Germany and the Netherlands. Rehbein's method is no longer mentioned in the more recent reviews of the results of surgical treatment of Hirschprung's disease, not even in a main topic in this journal [1].

We have observed that the postoperative course of Hirschsprung's disease is much less problem-free than is generally suggested in textbooks and publications. At our clinic, the question has therefore arisen as to whether the method should be considered obsolete in view of the postoperative problems that are regularly encountered. For this reason, we have carried out a follow-up investigation of the children we treated for Hirschprung's disease using Rehbein's method.

Materials and methods

From January 1970 to December 1985, 81 children were treated for Hirschprung's disease in the Pediatric Surgical Centre at the St. Radboud Hospital and Catholic University in Nijmegen, The Netherlands. Of these 81 children, 10 had an ultra-short segment and 11 had aganglionosis of the entire colon with or without extension into the ileum.

Fifty-four of the 60 children with the classical form of Hirschprung's disease underwent surgery according to Rehbein's method. In cases of aganglionosis of the entire colon we also performed a low-anterior resection, but these children have not been included in the study.

If the diagnosis was made shortly after birth it was usual practice to perform a transverse colostomy; about 4 months later this was followed by a low-anterior resection according to Rehbein's method. The colostomy was usually closed 1 month later, except in cases with complications (suture leakage) and the anal sphincter was strongly dilated. Primary resection and anastomosis were carried out in 12 children who had not undergone colostomy.

Fifty-one of the 54 children treated surgically were selected to take part in the follow-up investigation. Three were eliminated because 2 had recently undergone surgery and 1 still has a colostomy. The group consisted of 44 boys and 7 girls. In
23 of the children the diagnosis had been made within 1 month after delivery, in 20 within the 1st year, and in 8 at a later stage. The follow-up period varied between 9 and 203 months, with an average of 85.3 months. The children and their parents were all interviewed personally during the investigation. Special attention was paid to the long-term results.

Results

None of our patients died as a result of the operation or at a later stage. Twenty-four of the children did not require aftercare and displayed normal defecation patterns. Two patients developed moderate stricture of the anastomosis, which responded well to dilatation.

In 25 children the anal sphincter had to be redilated once or several more times due to the recurrence of constipation or persistent diarrhea. In 2, a sphincterotomy ultimately had to be performed and 2 were subjected to resection because insufficient ganglion cells were found in the final histological examination of the resection specimen, whereas in the frozen section there had appeared to be an adequate number.

Seven children still used laxatives regularly (14%), whereas 3 still had problems with loose stools.

Seventeen of the 51 children (33.3%) had experienced a period of diarrhea or had shown symptoms of enterocolitis.

None of the children we treated surgically were incontinent of feces postoperatively. One child had temporary enuresis. Twenty-five showed some “staining” in their pants and 5 were not yet toilettrained.

Discussion

It is often suggested that the treatment of Hirschsprung's disease by means of one of the usual surgical methods is very satisfactory. Our experience in the treatment of 51 children with Hirschsprung's disease shows that although half of the children were free from complaints postoperatively, the other half required very intensive postoperative care for quite some time. The question arose as to whether the surgical method according to Rehbein, which we have been using, should be considered as obsolete, particularly in view of the fact that this method has hardly been mentioned in recent comparisons of the various surgical techniques. There was also the possibility that we were not applying Rehbein's technique correctly. We therefore attempted to compare our late results with those in the literature. Both constipation and diarrhea were considered to be signs of “residual-segment obstruction”. The existence of fecal incontinence was also investigated.

The most important publications we referred to on patients treated according to Rehbein's method were by Rehbein (1976) [11], Hecker and Holschneider (1982) [4], Ott and Joppig (1981) [19], and a collected series by Soave (1977) [14]. The comparison of our results with those recorded in these series is shown in Table 1. Using Fisher's exact test, no significant difference was observed. The collective experience from the series of children treated according to Rehbein’s method was compared to that from the three other most frequently used surgical techniques, those of Swenson, Duhamel, and the so-called endorectal pull-through (Table 2).

Although constipation was found significantly less often after Duhamel's technique, all the surgical methods give significantly more enterocolitis and fecal incontinence in comparison with Rehbein's operation (Table 3).

One of the most important objections to Rehbein's method is that the operation is not radical enough. In our series of children we could not demonstrate a relationship between the level of the anastomosis and the ultimate result. According to Rehbein, the length of the remaining aganglionic segment is not the decisive factor, but rather special attention should be paid to the anal sphincter achalasia. Dilatation of the sphincter therefore forms an essential part of the operation. It is Rehbein's point of view [12] that the good results obtained with the other surgical techniques

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