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Original Article

Transanal Surgery of Hirschsprüng Disease in Senegalese Children after Infancy

Traitement chirurgical de la maladie de Hirschsprung par voie transanale chez l'enfant sénégalais de plus de deux ans

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RÉSUMÉ

Objectifs. Décrire la technique opératoire, les difficultés et les résultats de la chirurgie de la maladie de Hirschsprung par voie transanale dans un groupe d'enfants sénégalais. **Patients et méthodes**. L'étude a été réalisée entre le premier janvier 2010 et le 31 décembre 2015 au service de chirurgie pédiatrique du centre hospitalier d'enfants Albert Royer de Dakar. Vingt un enfants d'âge compris entre deux et quinze ans ont été opérés de maladie de Hirschsprung par voie transanale. Nous avons revu leurs dossiers et étudié la technique opératoire, les difficultés éventuelles et les résultats de l'intervention chirurgicale six et 12 mois après l'opération. **Résultats**. Les complications hémorragiques et des problèmes de congruence entre l'anus et le colon descend ont été notés chez els enfants qui ont eu un abaissement colique sans colostomie préalable. Les suites opératoires ont été simples dans 14 cas et des complications nt été notées chez sept enfants. Six mois après l'opération, les résultats étaient satisfaisants dans 15 cas et des complications ont été notées chez six enfants, dot un décédé. Douze mois après la chirurgie, les résultats restaient satisfaisants pour 15 enfants et des complications ont été notées chez cinq autres, dont deux décès. **Conclusion.** La chirurgie transanale dans la maladie de Hirschsprung est possible chez le grand enfant. Pour obtenir des résultats satisfaisants, il est nécessaire de réalise une colostomie préalable.

ABSTRACT

Purpose. To report the intraoperative difficulties and results of transanal pull-through in Hirschsprung disease in children aged 2 to 15 years in Dakar. **Patients and methods**: Between 1 January 2010 and 31 December 2015, 21 children between the ages of 2 and 15 years had a transanal surgery in Hirschsprüng disease. We studied the intraoperative difficulties and the postoperative treatment outcomes at six months and 12 months. **Results**. Hemorrhage and congruence problems between the lowered colon and the anus were noted in patients who had lowered without a previous colostomy. The operative outcomes were simple in 14 cases and complicated in 7 cases. At six-month there was resulted in a favorable outcome in 15 cases and complications in six cases, including one death. At 12 months, there was a favorable outcome in 15 cases and complications in five cases, including two deaths. **Conclusion.** Transanal surgery is a technique that can be offered to older children. However, its realization requires the prior colostomy to improve the results.

INTRODUCTION

In the Wester countries, Hirschsprung's disease (HD) is usually discovered in the neonatal period, allowing surgical treatment during this period [1]. Transanal surgery is often performed for simple operative follow-ups in the majority of cases. In Africa, many children with HD are seen at a late age, probably

because of the late consultation but also because of the lack of knowledge of the pathology by the medical staff [2]. This makes surgical treatment particularly difficult. Surgical techniques for these late cases are discussed in a few areas, each with its advantages and disadvantages [3, 4]. The purpose of this study is to report our experience in the treatment of HD in older children in Dakar.

PATIENTS AND METHODS

Twenty-one children over the age of two were cared for an HD between January 1, 2010 and December 31, 2015 among 83 children with HD. All recruitment cases had histological diagnostic confirmation after surgical rectal biopsy performed under general anesthesia. Our series consisted of 19 boys and two girls. Their average age was six years with extremes of 2 years and 14 years. Thirteen children were received as outpatients while eight children were received at the emergency unit. All children benefited from a lowering according to the technique of Swenson. A colostomy was performed in children received in emergency before the transanal lowering. We studied operative difficulties, immediate operative follow-up and follow-up at six months and one year.

RESULTS

Two operating difficulties were recorded by surgeons. This occured only in patients operated without first colostomy. These were haemorrhages and problems of congruence between the lowered colon and the anus making the colo-anal anastomosis difficult. The postoperative course was uneventful in 14 cases and complicated in seven cases (Table I).

Table I: Distribution of patients according to postoperative results

Postoperative	Number	%
Simples	14	66.7
Post-operative occlusion	2	9.5
Evisceration	1	4.8
Suppuration	3	14.2
Eventration	1	4.8
Total	**21**	**100**

The evaluation of patients six months after surgery, showed that 15 cases were event free. However, we noticed the occurrence of complications in six patients including one death. These complications are detailed in Table II.

Table II: Follow-up to six months

Follow-up six months	Number	%
Normal evolution	15	71.3
Anal incontinence	3	14.3
Anal stenosis	1	4.8
Parietal abscess	1	4.8
Death by peritonitis	1	4.8
Total	**21**	**100**

One year after surgery, the course of 16 patients was favorable, while four children had complications including two deaths (Table III). Anal incontinence and subocclusive syndrome were the main complications on those who survived.

Table III: Follow-up 12 months

Follow-up 12 months	Number	%
Normal evolution	15	75
Anal incontinence	2	10
Sub-occlusive syndrome favorable	1	5
Death by flange occlusion	2	10
Total	**20**	**100**

DISCUSSION

In developed countries, the diagnosis of HD is made during the neonatal period Thus children are made during that period or during the first year of life, often with simple postoperative [5-8]. In most African countries, diagnosis is late [3, 9]. Some authors even report cases diagnosed in adults [3]. Delay in diagnosis is related to late consultation and ignorance of the disease by the medical staff. This delay makes the procedure difficult. Several operative techniques can be performed, each having its advantages and disadvantages. According to members of the surgery section of the American Academy of Pediatricians, the choice of technique depends on the preference, skill and habits of surgeons for a given technology, but also on the age at diagnosis time, the length of the aganglionic segment and the realities on the ground [10]. We prefer lowering based on Swenson's technique because of our long experience with this procedure. Moreover, we note that the results improve during the follow-up of the patients, except for the cases of reported deaths. The evaluation of a technique requires prolonged follow-up in assessing the results of the technique under consideration. Thus Swenson noted excellent results in patients who had surgery based on the Swenson technique, following a follow-up period of 50 years [11]. We therefore believe that this is a technique that can be done in older children with HD as advocated by Ademuyiwa in Nigeria [3].

Swenson's lowering surgery may, however, be simpler if patients have a colostomy beforehand. Indeed, all children operated using this technique without having first a colostomy, have posed problems for surgeons. The colostomy, in addition to decreasing the size of the colon located downstream of the stoma, thus facilitating its mobilization during rectosigmoid dissection and making the coloanal suture easier, also reduces the risk of enterocolitis and protects the stool coloanal suture.

CONCLUSION

Lowering according to Swenson's technique can be offered to children with late diagnosis of HD. However, it should be preceded by a straight colostomy in view of the many benefits of this colostomy.

Conflict of interest

The authors do not declare any conflict of interest in relation to this article.

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