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Research Article

Preliminary Results of Transanal Lowering in Hirschsprung Disease at the Service of Pediatric Surgery of Aristide Le Dantec of Dakar Hospital

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Abstract

Introduction: The treatment of Hirschsprung disease is surgical and many surgical technics are described, of which the transanal way of De La Torre and Ortega. It actually constitute gold standard. We wished to evaluate our results of the pediatric surgery service of Aristide Le Dantec hospital of Dakar.

Patients and Methods: Through a prospective and descriptive study, we have recorded 16 files of 14 boys and two girls ages ranging from 0 - 15 years, who have benefited a transanal lowering for Hirschsprung disease from 1st April 2017 to 31st March 2018 at the pediatric surgery service of Aristide Le Dantec hospital of Dakar.

Results: The average of our patients at the intervention was of 30 months. The reach was sigmoidal recto in every case. The surgical biopsy confirmed the diagnostics in every case. All our patients benefited preoperative preparation. The installation of the patients was done by a ventral decubitus for 14 patients. A colostomy was made to a child.

The first was transanal exclusive for all of our patients with an average "cuff" length of 2 cm and the resected colic segment was 21 cm.

An accidental urethral breach occasioned at the intraoperative surgery. The food recovery was following day of the intervention for every patient and same for the transit areas. The average frequency of stools was 3 per day stools. The average time of hospitalization was of 5 days. All the patients benefited of a drop in the healthy zone according to the anatomopathological result of the exam. The nappy rash was found in 2 patients, the acute retention of urine in a patient, anal stenosis in a patient and staining in a patient. The post-surgical dilatation was done between the 10th and 15th day with a frequency of 2 reason per week in between 1 month except on a patient who consulted 30 days later. The average retreat was 6 months. We registered a death case due to ulcerative necrotizing enterocolitis.

Conclusion: We have satisfying results but need a deeper evaluation.

Keywords: Hirschsprung Disease; Child; Transanal Lowering of De La Torre and Ortega; Results

Introduction

Hirschsprung's disease (MH) is characterized by the absence of lymph node cells in the sub-mucous membrane and in the myenteric plexus of the digestive tract at its distal part [1]. On the therapeutic level several surgical techniques are decrites, from the princeps techniques of Swenson modified by Pellerin, from Duhamel

through laparoscopy to the transanal pathway of De La Torre and Ortega.

The latter is currently the gold standard. It is an exclusively perineal technique that has been reported by many authors and whose aim was to avoid abdominal septic time, reduce the length of hospital stay and unsightly scarring.

Aim of the Study

The aim of our work was to evaluate through a prospective study the results of the transanal lowering of De La Torre and Ortega in the paediatric surgery department of the Aristide Le Dantec Hospital in Dakar.

Patients and Methods

This is a prospective and descriptive study, conducted over a 12-month period from April 1, 2017 to March 31, 2018 in the pediatric surgery department of the Aristide Le Dantec hospital in Dakar during which we collected sixteen files.

In the face of chronic constipation, a barium enema and a rectal biopsy cause to make the diagnosis of Hirschsprung's disease and to specify the low form of it. The surgical technique is performed under general anesthesia with an orotracheal intubation and a urinary probe in place. The installation of the adeevil was most often done in ventral decubitus (frog position).

The anal mucosa was overprized, then circularly incised to the electric bistouri 5 mm from the pectinated line. The circular dissection of this mucous membrane on 1 to 2 cm at the cibuckets was followed by the opening of the muscular sleeve. That of the musculoskeletal was made gradually with the help of the dissecter until the peritoneal reflection. The open peritoneum, the hemostasis of the vessels was made from near to near. The sigmoid recto was released well beyond the transition zone and the resection of the area considered aganglionary was done. A section of the anterior and posterior face of the lowered colon was then performed followed by coloanal anastomosis after a posterior myotomy of the musculoskeletal sleeve.

We studied: the age of distribution according to the bands determined by the WHO, the anatomical form, the patient's installation, mechanical dilation, feeding time, the delay of resuming transit, the average length of hospitalization, the frequency of stool, morbidity, the margin of resection and mortality. All the procedures were carried out by the same operator (an Assistant-Chief of Clinic). A postoperative outpatient evaluation was systematically done according to the same protocol: 15th day, 1st, 3rd and 6th month in all patients and 12th in ten patients. The results of the transanal lowering were appreciated according to the early post-operative complications that is to say before the first month but also to the decreases of 6 months.

Results

The average age of our patients at the procedure was 30 months with extremes of 03 months and 11 years. The most affected age cut was 29 days-30 months (Figure 1).

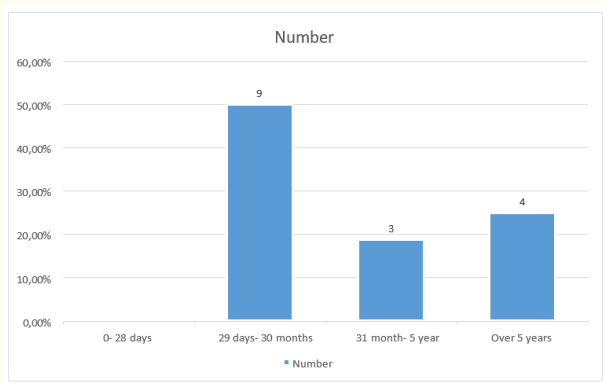

Figure 1: Distribution of patients by age group.

Barium enema was able to objectify the rectosigmoid form in all our patients except the patient who has a colostomy, in whom a storied biopsy was performed.

The average rectosigmoid an index was 0.4 cm with extremes of 0.2 cm and 0.7 cm.

Surgical biopsy under general anesthesia had confirmed the diagnosis in all cases.

All our patients have benefited from mechanical preparation (extended enema), as well as medical.

The patient was installed in ventral decubitus in 12 patients and in dorsal decubitus in 4 patients.

A colostomy was performed in the neonatal period for intestinal obstruction.

Hegar's bougies dilation was done in the patient with the colostomy. The average length of the "cuff" was 2 cm with extremes of 1.5 cm and 4 cm and that of the resequered colic segment was 21 cm with extremes of 12 cm and 50 cm.

The resumption of food as well as that of transit were made the day after the procedure in all our patients.

The average length of hospitalization was 5 days with extremes of 3 and 11 days.

All patients benefited from a lowering in the healthy zone according to the data from the anatomopathological examination of the surgical procedure.

Diaper rash was the main post-operative complication found in two patients (Table 1).

Complications	Frequency
Nappy rash	2
Acute urine retention	1
Anal stenosis	1
Defilements	1
Total	5

Table 1: Postoperative complications.

At the neck of the dissection, there was an accidental breach of the urethra which was repaired immediately with surgical followings marked by the occurrence of acute urine retention, and then a fecalury requiring a colostomy at J30 post-operative.

We recorded one death.

The average stool frequency was 3 with extremes of 2 and 5 stools per day. Post-operative dilation was done between the 10th and 15th day at a frequency of two sessions per week during a metre except in a patient who consulted at 30 days post-operative when his dilation was started.

The average decline was 6 months with extremes of 3 and 12 months.

Discussion

In our study the average age of 30 months at the time of investigation is significantly higher than that of Bragagnini and Col [2]; Obermayr and Col [3]; Pratap and col [4] and Tamby and col [5]. This intervention was extended to larger children in our context (44%) whereas it is done at a lower age in developed countries where diagnosis is made rather.

The rectosigmoid predominance of water-soluble enema in our series as in the literature is the rule [1].

The medical and mechanical preparations (evacueration enema) systemized in our series, have respectively the benefit of reducing the risk of infection and the mechanical dilation of the anal canal at the same time hence the absence of candle dilation on the operating table in 15 of our patients.

Colostomies reduces the size of the colon and does not distinguish the transition zone. This colostomy usually has resonances on the distal colic wall such as: a change in the size of the colon that becomes uniform; an absence of caliber support between different portions of the transition zone and an aspect of the wall that is often much more sluggish and fragile than when it is a colon that is functional.

The patient with a colostomy benefited from an intraoperative mechanical lactation to Hegar candles. Indeed, intraoperative spreads of the anal sphincter would play a role in the occurrence of sphincter disorders according to Arnaud and col [6].

Extemporaneous biopsy is not available, as we are based on the difference in colon size for resection that was done upstream of the transition zone.

This extemporaneous biopsy allows for certain resection in a healthy area.

In our study, the average length of the 21 cm coliquic segment is less than those of Elhalaby and Col [7] and Pratap and Col [8].

All of our patients benefited from a healthy zone downgrade according to the anatomopathological examination of the surgical procedure with food resumption the endemial of the intervention as in the study of Tamby and Col [5], but differs from those of Erginel and Col [9] and Pratap and Col [4].

Our average length of hospitalization of 5 days is greater than that of Giuliani and Col [10], but less than that Yang lle [11] who found 7 days.

This long duration was due to the occurrence of abdominal pain, to transient urination difficulties in some patients.

In our study, as well as in those of Xu and Col [12] and Zhang and Col [13], the average stool frequency was 3 stools per day, but lower than those of Bragagnini and Col [2] and Pratap and Col [8] who found a frequency greater than 6 stools per day. The accidental urethral breach made, may be related to difficulties in differentiating the different layers of the wall that explained this dissection wandering. This urethral rupture is not a complication classically reported in the literature.

Our post-operative complications were dominated by diaper rash. Indeed these complications have also been reported by many authors such as: Elhalaby and col [7]; Jester and collar [14]; Pratap and collar [8] who found respectively 39%, 28% and 34% of cases. This predominance could be due to a lack of local care in postoperative.

Acute urine retention is the result of the accidental urethral breach that occurred intraoperatively and was immediately repaired.

Our case of anal stenosis evolved favorably through Hegarcandle dilation sessions. This result is lower than that of Bragagnini and Col [14], but higher than those of Elhalaby and Col [7] and Yang and Col [15], which found 5% and 1.4% respectively.

Smears may be related to incontinence, but may also reflect severe persistent constipation or poor rectal emptying [2]. Their frequency and severity vary enormously from patient to patient, and depending on age, with difficult steps when entering school, or adolescence. We have recorded less smear than many authors [6,7,9,13] who found 86%, 32%,9%, 16%, respectively. This difference may be related to a later age at the time of the intervention as in our study unlike those of the authors above. The smaller the patients, the more soil they do, because they have not yet acquired cleanliness.

Of septic intraperitoneal origin, enterocolitis results from fecal contamination during the surgical colic section with a frequency that varies according to the series from 2 to 27% and is mainly observed after the interventions of Swenson, Soave-Boley and remains exceptional in the technique of transanal lowering [2]. It is more often found in patients with Down's syndrome 21 and in patients with total colic disease [16]. Our case of mortality from enterocolitis could be related to ineffective antibiotic therapy and or antibiotic rupture related to the limited means of the parents. Our average decline of six months is identical to that of Bragagnini and pass which regain 5.9 months.

Our recorded post-operative complications (diaper rash, anal stenosis, and smears) have progressed favorably under treatment initiated without the need for surgery. These complications are reported by many authors in this type of lowering [16-20].

We did not record any complications for follow-up at 12 months.

For anal incontinence frequently encountered in the Swenson technique, many authors advocate surveillance until adulthood.

However, he followed up for a follow-up to compare the final results of these two techniques, with a decline of only one year.

Objectively, we were unable to assess long-term anal incontinence by the unavailability of rectal manometry in our context, which is essential to the evaluation criteria.

Conclusion

In our context, this easier technique, ideally offered to infants under 8 weeks of age, has been extended to larger children.

Our results are satisfactory but require a much longer evaluation and further study for a more significant series.

Bibliography

1. Bankole S R., *et al*. “Notre expérience dans la prise en charge de la maladie de Hirschsprung chez l’enfant au CHU de Treichville”. *Journal Afr Chir Digest* 6.1 (2006): 526-532.

2. Bragagnini RP., *et al*. “Functional outcomes in postsurgery for Hirschsprung´s disease”. *Cirugia Pediatrica* 30.4 (2017): 191-196.

3. Obermayr F., *et al*. “Outcome of transanal endorectal pull-through in patients with Hirschsprung’s disease”. *European Journal of Pediatric Surgery* 19.4 (2009): 220-223.

4. Pratap A., *et al*. "Analysis of problems, complications, avoidance and management with transanal pull-through for Hirschsprung disease". *Journal of Pediatric Surgery* 42.11 (2007): 1869-1876.

5. Tamby E., *et al*. "Abaissement transanal selon Soave dans la maladie de Hirschsprung: évaluation précoce des résultats, e-mémoires de l'Académie Nationale de Chirurgie 9.4 (2010): 018-020.

6. Arnaud A., *et al*. "Évaluation fonctionnelle à long terme de l'abaissement transanal pour maladie de Hirschsprung". *Arch Pediatr* 17.6 (2010): 11.

7. Elhalaby EA., *et al*. "Transanal one-stage endorectal pull-through for Hirschsprung's disease: a multicenter study". *Journal of Pediatric Surgery* 39.3 (2004): 345-351.

8. Pratap A., *et al*. "Single-stage transanal endorectal pull-through for Hirschsprung's disease: perspective from a developing country". *Journal of Pediatric Surgery* 42.3 (2007): 532-535.

9. Erginel B., *et al*. "Long-term outcomes of children with transanal endorectal pull-through and a review of the literature". *Acta Chirurgica Belgica* 116.6 (2016): 372-375.

10. Giuliani S., *et al*. "Outcome comparison among laparoscopic Duhamel, laparotomic Duhamel, and transanal endorectal pullthrough: a single-center, 18-year experience". *Journal of Laparoendoscopic and Advanced Surgical Techniques* 21.9 (2011): 859-863.

11. Yang L., *et al*. "Transanal endorectal pull-through for Hirschsprung's disease using long cuff dissection and short V-shaped partially resected cuff anastomosis: early and late outcomes". *Pediatric Surgery International* 28.5 (2012): 515-521.

12. Xu ZL., *et al*. "A new modification of transanal Swenson pull-through procedure for Hirschsprung's disease". *Chinese Medical Journal* 121.23 (2008): 2420-2423.

13. Zhang SC., *et al*. "Evaluation of anorectal function after transanal onestage endorectal pull through operation in children with Hirschsprung's disease". *Zhongguo Dang Dai Er Ke Za Zhi* 9.3 (2007):188-192.

14. Jester I., *et al*. "Transanal pull-through procedure for Hirschsprung's disease: a 5-year experience". *European Journal of Pediatric Surgery* 19.2 (2009): 68-71.

15. Zhang SC., *et al*. "Long-term outcome, colonic motility, and sphincter performance after Swenson's procedure for Hirschsprung's disease: a single-center 2-decade experience with 346 cases". *The American Journal of Surgery* 194.1 (2007): 40-47.

16. Phillipe-chomette P., *et al*. "Diagnostic et prise en charge de la maladie de Hirschsprung chez l'enfant". *The Journal of Pediatrics* 21 (2008): 1-12.

17. Chen Y., *et al*. "Transanal endorectal pull-through versus transabdominal approach for Hirschsprung's disease: a systematic review and meta-analysis". *Journal of Pediatric Surgery* 48.3 (2013): 642-651.

18. Lu C., *et al*. "Single-stage transanal endorectal pull-through procedure for correction of Hirschsprung disease in neonates and no neonates: A multicenter study". *Journal of Pediatric Surgery* 52.7 (2017): 1102-1107.

19. Mao YZ., *et al*. "Duhamel operation vs. Transanal endorectal pull-through procedure for Hirschsprung disease: A systematic review and meta-analysis". *Journal of Pediatric Surgery* (2017).

20. Moulot MO., *et al*. "Results of surgical treatment of Hirschsprung disease at the Treichville Teaching Hospital". *Journal Africain d'Hépato-Gastroentérologie* 9 (2015): 109-113.

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