Original Article

Success of Aetoxiscerolin the Treatment of Medically Refractory Rectal Mucous Prolapse among Children at the Hospital Aristide Le Dantec in Dakar, Senegal

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ABSTRACT

***Background**:* Rectal prolapse (RP) is a protrusion of the rectum through the anus. In the literature. Sclerotherapy is the best second line minimally invasive method. The purpose of this work is to review the effectiveness of this technique in a context where surgical procedures still seem to be very used.

***Method**:* This was a prospective cross-sectional study over 04 years concerning 20 patients who had recurrent RP and had a lauromacrogol 400 (Aetoxisclerol 2%) submucosal perirectal sclerotherapy.

***Results**:* After an average follow-up of 28 months, complete healing was achieved in 100% of cases. A single injection was required for 19 patients (95%). No complications were reported.

***Conclusion**:* Sclerotherapy is an effective and simple method that every team must give itself the means to put in place for the management of recurrent RP.

INTRODUCTION

Rectal prolapse (RP) is a protrusion of the rectum out of the anus.[1] It most often concerns the rectal mucosa (95-98%) but may include the entire rectal wall.[1] It is a common condition in the pediatric population.[2] Its etiologies can be grouped into five major groups: increased abdominal pressure, diarrheal diseases, parasitic infections, rectocolic neoplasia and malnutrition that reduce ischiorectal fatty tissue.[2] However, predisposing anatomic factors that can lead to prolapse such as the verticality of the sacrum, the absence of the anal cap, the laxity of the attachment of the mucosa to the underlying layers of the rectal wall and the immaturity of the receptors of the rectal ampoule and anal canal.[3] Constipation and parasitic diarrhea are the main contributing factors in children.[4] Hygiene and dietary measures and medical treatment constitute the first line of the care. In the event of failure of this first line, several surgical techniques at the forefront of which sclerotherapy come within the therapeutic means.[5] The aim of this work is to take stock of the effectiveness of this technique in a context where other surgical procedures have shown their limits in terms of efficacy and morbidity.

METHODS

We conducted a prospective cross-sectional study in the pediatric surgery unit of Hospital Aristide Le Dantec at Dakar, Senegal. Over four years (January 2013 to December 2016), we collected all patients' records followed for a rectal prolapse and having benefited from sclerotherapy. The diagnosis of prolapse was made with the elements of the anamnesis and/or physical examination noting the appearance of a circumferential mass during

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defecation which can reduce either spontaneously or by gentle pressure. Treatment for worm infestation was instituted from the onset in all patients with diet advice and possibly medication following the transit disorder involved. The failure of this conservative management led to the indication of sclerotherapy. The injection was done under general anesthesia as an outpatient. The product used is Aetoxisclerol 2% in all patients except in a case that coincided with a stock-out; the 0.5% dosage form was used. The injection was made under general anesthesia in the operating room with the patient in lithotomy position. A 10cc syringe is used to inject the product. The lubricated left index finger of the surgeon is placed in the anal canal (Figure A.1 and A.2). The infiltration of Aetoxisclerol is made at 2'0 clock, 6'0 clock and 10'0clock. At each injection site, 1.5 to 2 cc of sclerosant product is infiltrated strictly under the mucosa guided and controlled by the intrarectal finger. Patients are reviewed in clinic at seven days, one month, three months and six months post sclerotherapy. The endpoint is the persistence of prolapses episodes. All patients were followed until the end of the survey.

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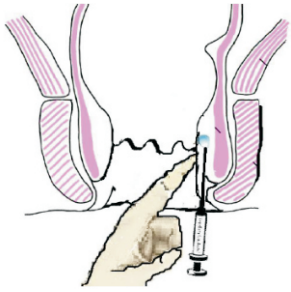

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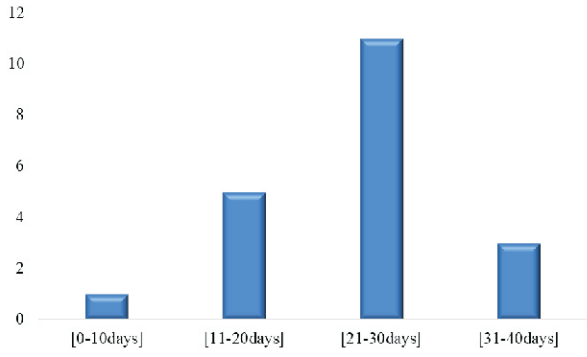
RESULTS

We collected 20 records of patients with persistent mucosal rectal prolapse after medical treatment and undergoing outpatient sclerotherapy. The average age was 6 years with extremes of 2 to 13 years. There were 12 boys and 8 girls. Three patients had normal transit with at least one bowel movement per day, 5 had diarrhea and 12 had constipation. The mean follow-up of patients before sclerotherapy was 21 days with extremes of 19-40 days (Figure B). Sclerosing injection was performed in 20 children. Only one patient had recurrence of rectal prolapse at 15 days attributed to the form of the product (Aetoxisclerol 0.5%). A second series of Aetoxisclerol 2% injection was needed 1 month later. After an average follow-up of 28 months (range 14 months to 44 months), no recurrence was noted.



DISCUSSION

Rectal prolapse is a pathology whose etiology in children is poorly understood.[6] It usually occurs before the age of 4 years.[4] The good result of therapeutic methods in a relatively large number of children may be the effect of patient selection rather than the efficiency of the chosen method.[7] For many authors independent of the etiologies, the treatment of RP must be performed at the first manifestations.[8] The first-line treatment remains conservative based on the initiation of dietary and lifestyle measures associated with treatment of worm infestation.[6,7,8] This helps correct the most common etiology of rectal prolapse. Nevertheless, relapsed RP after receiving adequate first-line treatment can occur and can be managed by more than 130 different techniques, none of which has proven supremacy.[2] The techniques of rectopexy, resection of the externalized rectum and laparoscopic approach seem excessive given the benign nature of the

disease.[3,4,8] These operative techniques are usually employed for elderly patients and in pediatric patients, operative management is rarely needed.[4] Nevertheless, they remain safe and effective techniques with a good functional result in cases of total prolapse.[6,8,9,10] Linear electrocoagulation allows longitudinal cauterization of the rectal mucosa and submucosa. It is often a source of complications such as rectorrhagia and peri-anorectal stenosis.[7]

The Thiersch procedure of strapping the anal canal with a non-absorbable thread is effective and easy to perform. It is based on a mechanical support that would be achieved by the fibrous tissue produced by the passage of the wire. It has undergone numerous modifications, the last of which is the realization of 3 rings.[2] It remains however commonly used in our context because of its accessibility. It is used alone or in combination with other methods.

Sclerotherapy is increasingly indicated in recurrent PR. It's a simple, inexpensive, reliable and effective method.[6,9,11] Injections are strictly submucosal and must respect the sphincter and the anterior part of the anal canal in order to avoid the urethra in the boy and the rectovaginal septum in the girl.[6] Complications that may be encountered include recto-vaginal fistulas, perianal fistulas, ulcerations and abscesses.[6,11]

The 20 patients of our series had failure of the first line treatment which motivated the realization of the sclerosing injections. In line with Ghorbel *et al*[1] these injections resulted in a complete cure after a scleranase session instead of 3 sessions as reported by most teams[6]. The sclerosant used was lauromacrogol 400 (Aetoxisclerol 2%) which is indicated for use in the management of varicose veins in adults. It has shown a 100% efficacy. According to some authors, all sclerosing agents would have identical efficacy.[3,12] Fahmi in 2004[11] demonstrated the superiority of Deflux followed by ethyl alcohol at the expense of almond oil plus phenol at 5% which would be better than the hypertonic saline 15% in this indication as demonstrated by Chaudhry.[13] The Deflux had results with the least complications and the least recurrences.[11] Like Dieth and Ghorbel,[1,6] we did not register any complication. In our context the availability and accessibility of sclerosing products seem to be the first barriers to their use. The only case requiring a second series of injection was the one having a 0.5% injection of Aetoxisclerol in connection with a stock-out of the form received by the other patients.

CONCLUSION

Sclerotherapy is an effective method. It must be considered as the second step in taking care of patients with rectal prolapse after the combination of dietary and medical measures. Its simplicity should motivate teams to have it available.

Limits of our study

The study's main limits are the small cohort and we also did not have data from other pediatric surgery units which may lead to underestimation of RP and its management with sclerotherapy in Senegal.

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