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Strangulated Transanal Evisceration of Small Bowel Complicating Rectal Prolapse of the Child: An Observation of the University Hospital Center of Parakou, Benin

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Abstract

Transanal intestinal evisceration is an extremely rare and dramatic digestive surgical emergency. The cases reported in the literature are few and concern much more elderly patients. We report the case of a 3-year-old boy admitted in very general poor condition to the emergency department, late for transanal evisceration complicating rectal prolapse that the parents tried to reduce. The fatal outcome of this case is probably related to strangulation and delay in consultation. We learn from this that parents should avoid inopportune prolapse reduction and early consultation.

Keywords

Transanal Evisceration, Strangulation, Rectal Prolapse, Child, Benin

1. Introduction

Transanal evisceration of the small bowel is very rare [1]. The first description was made in 1827 by Benjamin Brodie [2]. Since this time, few cases mostly encountered in adults were described. This is surgical emergency due to herniation of bowel through breach in the rectal wall and seen eviscerating through the anus. We report a case of transanal evisceration with strangulation of the small bowel in a child. Through this observation, we propose to discuss the aetiological and therapeutic possibilities.

2. Case Report

It was a 3-year-old boy referred to Parakou University Hospital for the exteri-

orization of small loops through the anus. Interrogation found: late admission of 17 hours, dysentery about 4 days and a history of rectal protrusion during defecation one year of age, without another pathologic antecedent. This was usually reduced by the parents. The evisceration occurred during the last attempt of manual reduction. Physical examination showed pale conjunctiva and mucous membranes, a pulse rate of 96 beats per minute and a respiratory rate of 26 cycles per minute. Perineal examination noted an evisceration such as a voluminous intestinal pelvic mass spiral, strangulated and inflammatory under pressure (**Figure 1**). The abdomen was slightly enlarged, not very depressible but sensitive. Digital rectal examination was impossible. Transanal evisceration with strangulated small bowel through rectal prolapse is concluded. Biological assessment showed severe anemia at 6.7 g/dl and hyponatremia at 130 mmol/l. The eviscerated loops were covered with wet and saline compresses. A medical resuscitation was instituted promptly (introduction of a gastric tube that brings greenish liquid, analgesic, antibiotic and blood transfusion) with the preoperative assessment. Unfortunately, the patient died during this preoperative phase two hours after admission, parents refused examination after death.

3. Discussion

3.1. Epidemiological Aspects

Transanal evisceration of the small intestine is a rare pathological condition [3] [4]. Bâ PA *et al.* describes it as spectacular [3]. This is a well-known phenomenon in adult subjects [4] where most reported cases were associated with rectal prolapse [1] [2]. The aetiological circumstances are rather varied in the pediatric population. We thus find cases of abdominal trauma [5] [6], trauma by impaction [7] [8], aspiration accident on pool bung [4] [9]. Another etiology is sexual abuse in a girl child reported by Press S *et al.* in 1991 [10]. In our patient, evisceration is a complication of rectal prolapse as it occurred during the reduction attempt.

(a) (b)

Figure 1. Small bowel loop, eviscerated and strangulated through the anus. (a) supine patient, (b) patient in left lateral decubitus.

3.2. Pathogenic Aspects

With regard to rectal prolapse, all authors agree on the mechanism of spontaneous perforation of the rectum [1] [4] [11] [12]. Factors of abdominal hyperpressure such as exoneration, vomiting, cough can lead to the perforation. In our observation, this hyperpressure is caused by the attempt to reduce the prolapse manually as Trinidade A *et al.* Case [1]. These latters justify that in this position, the gravitational weight of the small intestinal mass against the rectal wall makes it technically more difficult to reduce and forces to use more manual force resulting in the sudden increase in intra-abdominal pressure. The consequence is rupture of rectal wall followed immediately by evisceration of the small intestine. The gap usually sits on the anterior surface of the rectum near the peritoneal reflection [3] and may be transverse [12] or longitudinal [13]. Petras *et al.* [14] demonstrated clearly an aetiopathogenic link between focal rectal ischemia and perforation. Since the small intestine has prolapsed through a more or less narrow rectal gap, it can be strangulated with tonic anal sphincter [1]. This was surely the case of our patient given the notion of dysentery syndrome.

3.3. Diagnostic Aspects

Although the diagnosis of this condition is mainly clinical, imaging can play a role in its management. A X-ray of the abdomen without preparation can detect peritoneal and retroperitoneal emphysema [15]. In addition, computed tomography may be useful for detecting presence of air outside the rectosigmoid junction. This suggests a parietal rupture and may help plan a surgical procedure [15].

3.4. Therapeutic Aspects and Prognosis

Appropriate resuscitation and rapid surgery are the mainstays of treatment [1]. The eviscerated intestine should be cleaned with saline and gently reduced in the peritoneal cavity with simultaneous support and guidance through the anal canal. But most of the time this attempt at reduction without laparotomy proves to be fruitless [16] as mentioned by several case studies [3] [11]. We did not attempt it in our patient because of the strangulation and inflammation of the loop. Perineal surgery was planned in order to perform a recto-sigmoid resection followed by a colo-anal anastomosis (Intervention of Altemeier) but given the precarious state of health of the child (ASA 5): severe anemia, poor general condition, hydro-ionic disorders, a two-stage intervention would be more lawful. The first step would be to remove the urgency by reducing evisceration and treating lesions of the small bowel (resection and ileostomy in case of necrosis); in the second deferred time, we would take care to treat the rectal prolapse. In adults, laparotomy is followed by bowel resection with immediate anastomosis followed [14] by suturing of the rectal gap that may or may not be protected by a temporary colostomy. The definitive repair of rectal prolapse by rectopexy or by intervention of Altemeier can be considered in eligible candidates [1].

Trans-anal evisceration of the small intestine shows high mortality [13]. The review of literature by Morris *et al.* [17] revealed 53 cases of evisceration of the small bowel on rectal prolapse since the first case described by Brodie and of these 53 cases, 22 (41.5%) cases had died. Our patient died in the preoperative phase after a short delay after admission, as reported by Berwin JT *et al.* [16].

4. Conclusion

Children with rectal prolapse have a real risk of evisceration, especially when parents are attempting untimely maneuvers for reduction. To our knowledge, this observation is the first in the scientific literature of Benin. A senbilisation of the parents is necessary for a rapid consultation in case of rectal prolapse whose usual maneuvers do not make it possible to reduce.

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