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Case Report

Intestinal Wound during Umbilical Cord Section

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Abstract

Introduction: Intestinal wounds during the umbilical cord section are very rare. They are observed in case of anomaly of the abdominal wall. We report 3 cases of intestinal loop section on omphalocele with emphasis on clinical and therapeutic aspects.

Case Report: There were three newborns aged 3, 4, and 21 days of life, one male and two females, all of whom were admitted for umbilical stool discharge after the umbilical cord section. At the physical examination, patients had a good impression, except for a patient whose general condition was poor, with a greyish complexion and convulsions during examination. The patients' abdomen was supple, depressible and undistorted. There was the presence of intestinal loop in the umbilical ring with stool exit. On surgical exploration, all patients had a section of the ileum. Resection was performed with end-to-end ileo-ileal anastomosis. Postoperative recovery was uneventful in all patients.

Conclusion: The umbilical cord section should be made away from the umbilical ring to avoid such accident.

Keywords: *Intestinal Wounds; Omphalocele; Umbilical Cord; Section*

Introduction

The anterior abdominal wall may be the seat of malformation in newborn. Omphalocele is one of them in which the abdominal viscera remain herniated through the umbilical portion of the abdominal wall into a membrane [1]. This membrane is called Wharton's jelly [2]. The anterior midline defect of the abdominal wall may vary in size [3]. The diagnosis of omphalocele is usually easy at birth when the defect is large. Sometimes the presence of a small omphalocele may be missed, and in such circumstances a clamp, ligature or cutting applied across the omphalocele close to the abdominal wall may transect a loop of intestine [4] and become an emergency. We report three cases of intestinal wound after umbilical cord section in newborns.

Case Report

Case 1

A three days-old female, born after a well-followed pregnancy, evacuated for hemorrhage on abdominal malformation and stool discharge umbilical after section of the umbilical cord by the midwife. On examination the newborn had a good general impression, a good mucocutaneous staining. There was macroglossia, meconium flow in the umbilicus (Figure 1). Surgical exploration was performed and it was a wound of the ileum. It was performed an end to end ileo-ileal anastomosis. The postoperative course was simple.

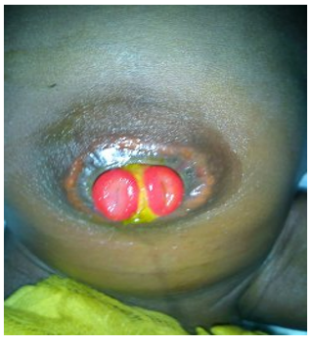


Figure 1: *Presence of stool at the umbilical ring.*

Case 2

A 21 days-old female, born at home, evacuated for meconium emission at the umbilical ring after section of the umbilical cord (Figure 2). On examination, the general condition was bad with a greyish complexion and convulsion, generalized hypertonia. The abdomen was not distended. There was a stool discharge at the umbilical ring. There was respiratory distress. Sepsis was diagnosed and the patient was treated by the intensive care unit with triple antibiotic therapy and blood transfusion twice. After improvement of the general condition, surgery was allowed and an end-to end ileo-ileal anastomosis was performed. The postoperative course was simple.

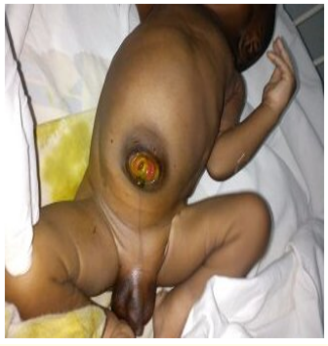
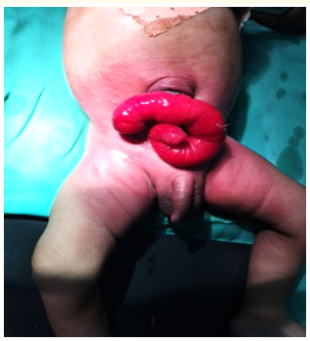


Figure 2: *Presence of stool at the umbilical ring.*

Case 3

A 4-days-old male born from a well-followed pregnancy. He was admitted for umbilical fluid flow seen by the mother after the section of umbilical cord. On clinical examination the newborn had a good general condition with a good cutaneous and mucous colouration without fever. The presence of intestinal loops at the level of the umbilical ring with stool exit was noted during the pressure of the umbilical region (Figure 3A). The abdomen was supple and depressible. Surgical exploration was performed and was an ovarian ileum wound measuring 2 cm in diameter located 5 cm from the ileocecal junction (Figure 3B). It was performed an end to end ileo-ileal anastomosis. The postoperative course was simple.



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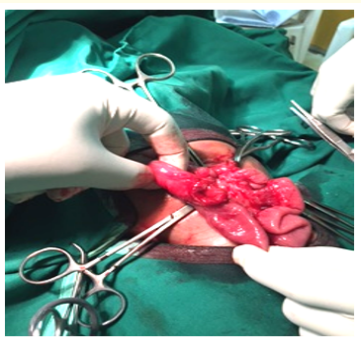

B

Figure 3: *A: Intestinal loop exteriorized at the umbilical ring. B: Intraoperative aspect with ileal perforation.*

Discussion

An omphalocele is a rare congenital abdominal wall defect of the umbilical ring [5]. The formation of small and giant omphaloceles seems to involve different mechanism [6]. The mechanism of the formation of small omphaloceles is relatively straightforward. The midguts begin to grow rapidly during the 6th week of gestation, resulting in the normal herniation of the intestines through the umbilical ring and the midgut begins to rotate and return to the abdominal compartment by the 10th week GA. If the intestine fails to return to the abdominal compartment a small hernia into the umbilicus occurs, resulting in a small omphalocele, with minimal widening of the umbilical ring [7]. However, the embryological events associated with large omphaloceles are more complicated and less settled in terms of pathogenesis [5].

Intestinal wounds during the section of the umbilical cord in newborn are very rare condition. The rarity of this condition is attested to by the paucity of studies reporting its occurrence and management. In 2008 Asabe., *et al.* reported 18 cases in the literature including the case that he had described [3]. This is accident is due to the lack of knowledge of omphaloceles especially in small forms. In fact omphalocele has classified by some authors according to the size of umbilical ring. Jones subdivided exomphalos into defects with a diameter smaller than 2.5 cm, defects with a diameter of 2.5 - 5 cm and defects with a diameter larger than 5 cm [8].

Sometimes the presence of a small omphalocele may be missed, and in such circumstances a clamp, ligature or cutting applied across the omphalocele close to the abdominal wall may transect a loop of intestine [9].

The clinical presentation can be abdominal distention and bilious vomiting [3,4,8] or fistula externalised at the umbilical ring in the days following the birth as in our cases. Fistulography can be done to demonstrate the connection of the fistula the small intestine [3]. But in ours cases no investigation was necessary to do the diagnosis. The diagnosis was done per-operatively. Informed consent form to be taken from all cases.

The treatment consisted of resection of the affected ileum followed by an end to end anastomosis. The prognosis of this affection is good. The only cases of death following this accident were described before 1963 [3]. Since then all the other cases have survived just like those we have reported.

Conclusion

Intestinal wounds during umbilical cord sections are rare, the diagnosis is clinical and the treatment is surgical by anastomosis with a good prognosis. Before any section of the umbilical cord in new born it is necessary to be sure of the absence of anomaly at the umbilical ring and to make the section remote from any umbilical swelling between two clamps.

Conflicts of Interest

The authors declare that they have no conflict of interest.

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