

Traumatic evisceration after blunt trauma in a 20-month-old boy

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ABSTRACT

Blunt traumatic evisceration is extremely rare. We describe the case of a 20-month-old boy with stomach and small and large intestine evisceration after blunt trauma. Immediate laparotomy and surgical repair were performed. There was no injury, other than a small hole in the mesentery. The bowels were drained into the abdominal cavity, and the skin was closed. The patient recovered well.

Keywords: Blunt trauma; emergent surgery; evisceration.

INTRODUCTION

There are only a few cases of traumatic abdominal evisceration in literature. A more common injury is traumatic abdominal wall hernia. This rare condition could be caused by penetration or blunt trauma. Most of the presented cases concern adult patients. In our report, we describe a case of traumatic abdominal wall disruption with stomach and bowel evisceration in a 20-month-old boy.

CASE REPORT

A 20-month-old boy was admitted to our Pediatric Emergency Department after he suffered a blunt abdominal wall injury. He was playing near the house when suddenly his older sister accidentally drove a car into him and pressed him into the concrete house wall. His parents immediately took him to their car and drove the child to the oncoming ambulance team. On examination at admission, he had signs of traumatic shock, but was conscious and scored 13 points on the Pediatric Glasgow Coma Scale. The vital signs were as follows: heart rate, 145 beats/min; blood pressure, 70/50 mmHg; respiratory rate, 30 breaths/min; and temperature, 36.0°C. The obvious injury was a protrusion of the greater part of the

stomach and small and large bowels, with the omentum outside the abdominal wall, and some skin abrasions and bilateral contusions on the parietal region of the head and on both arms (Fig. 1a).

Abnormalities in laboratory tests included elevated aminotransferases (ALT 205 U/l and AST 351 U/l) and D-dimer (7877 ng/ml). Due to the mechanism of the trauma, after preliminary fluid resuscitation, computer tomography (CT) was performed (Fig. 1b). Besides evisceration, the CT scan demonstrated a first-grade left pulmonary contusion and small pneumothorax on the right side. The child was immediately taken to the operating theatre. We administered broad spectrum antibiotics (cefuroxime, metronidazole, and amikacin). Intraoperatively, we found an 8-cm transverse wound in the umbilical region and some skin abrasion in the right lumbar and iliac regions. Exploration of the abdominal cavity and retroperitoneum was done through the full-thickness anterior abdominal wall rupture. To the right of the umbilicus, the anterior rectus fascia, rectus abdominal muscle, and peritoneum were damaged. We investigated and closed a 5-cm defect in the mesentery. The stomach and the small and large intestines were not injured. We excluded other abdom-

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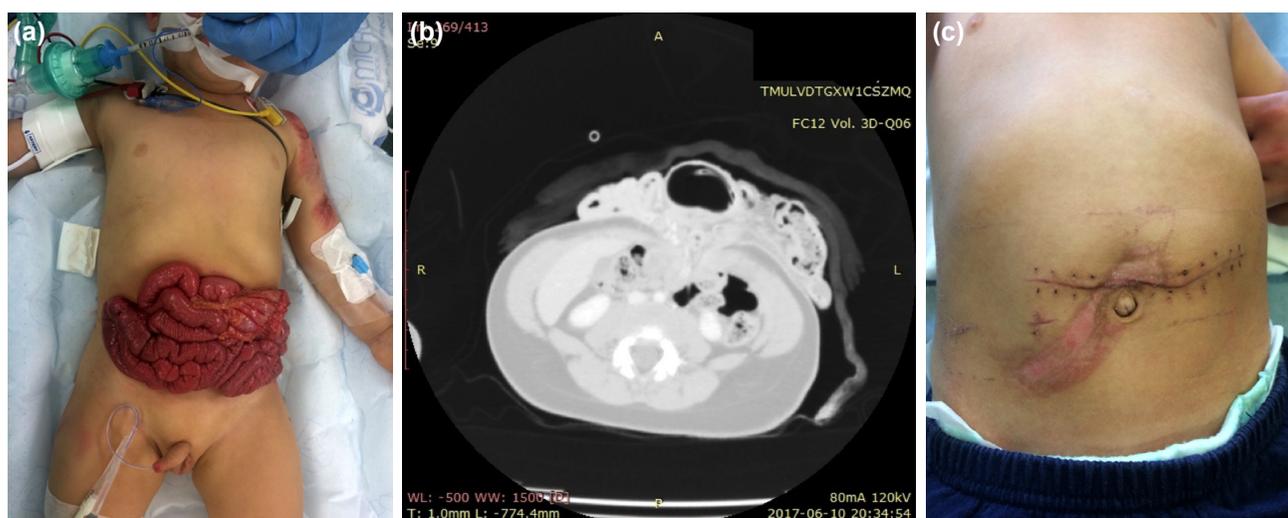


Figure 1. (a) Preoperative image showing small and large bowel evisceration. (b) Trauma scan shows evisceration of the stomach (with nasogastric tube inside) and small and large intestines. (c) Postoperative results. Two weeks after surgery.

inal damages. The eviscerated organs were cleaned with a warm saline solution and returned into the abdomen. The abdominal cavity was drained, and then the abdominal wall was reconstructed in whole layers. The postoperative period was complicated with diarrhea caused by *Morganella morganii* and was successfully treated using cefotaxime, a third-generation cephalosporin. The patient recovered well; he was discharged from the hospital 16 days after the accident and remains stable under ambulatory control (Fig. 1c).

DISCUSSION

The incidence of all abdominal wall injuries after blunt trauma is only 9%.^[1] Traumatic evisceration after blunt trauma is extremely rare. In most cases, it is associated with a penetrating injury. There are only a few reports in literature with this type of injury. To our knowledge, only two pediatric cases have been reported in literature. One case was of a 6-year-old boy with small bowel evisceration who fell onto bicycle handlebars.^[2] The other was a 7-year-old girl after a motor vehicle accident and with small and large intestine evisceration.^[3] In both cases, a laparotomy and primary closing were performed. The postoperative period was uneventful.

Table 1. Abdominal wall injury grading scale^[1]

Grade	Description
I	Subcutaneous tissue contusion
II	Abdominal wall muscle hematoma
III	Singular abdominal wall muscle disruption
IV	Complete abdominal wall muscle disruption
V	Complete abdominal wall muscle disruption with herniation of the abdominal contents
VI	Complete abdominal wall disruption with evisceration

Based on the CT scan findings, complete abdominal wall disruption with evisceration was extreme (grade VI on the abdominal wall injury grading scale) (Table 1).^[4] The causes of injury differ and could be due to high or low energy mechanisms (accidents, falls, handlebar injury). Evisceration is obvious and can occur in natural orifices (anus,^[5] vagina, diaphragm) or in anatomically weak places (lateral rectus, lower abdomen, because of the absence of a posterior rectus sheath in this area, and inguinal canal).^[6] Every time a patient is hemodynamically stable, other injuries must be excluded, and a trauma CT should be performed,^[6] because the frequency of the associated intra-abdominal damage could be 30%.^[7] Obviously, the procedure of choice is prompt laparotomy and surgical repair.^[4] The best option is primary wall closure, but when there is a giant abdominal wall defect, we can temporarily cover the defect with absorbable or non-absorbable mesh, any other surgical material (even urine bags and intravenous fluid bags were described), or a vacuum pack dressing.^[8] We should remember that a fascia closure with tension could lead to necrosis of the fascia or life-threatening abdominal compartment syndrome. Other early complications include wound infection and enteric fistula formation.^[9] All patients should stay under long-term follow-up care to observe the functional and cosmetic outcomes.

Conclusion

Traumatic abdominal evisceration after blunt injury is extremely rare. If the patient is clinically stable, associated injuries should be excluded before an operation using CT. Exploratory laparotomy is mandatory, and if possible, primary abdominal wall closure should be performed. Isolated evisceration is potentially life-threatening, but has a very good prognosis, if adequate treatment is immediately provided.

Conflict of interest: None declared.

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OLGU SUNUMU - ÖZET

Yirmi aylık erkek çocukta künt travmadan sonra travmatik eviserasyon

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Künt travmaya bağlı eviserasyon son derece nadirdir. Yirmi aylık erkek çocukta künt travma sonrası mide, ince ve kalın bağırsakta eviserasyonu tanımladık. Acil laparotomi ve cerrahi onarım yapılmıştı. Mezenterde küçük bir delikten başka bir yaralanma yoktu. Bağırsaklar karın boşluğuna drene edildi ve cilt kapatıldı. Hasta iyileşti.

Anahtar sözcükler: Acil cerrahi; eviserasyon; künt travma.

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