

Conservative management of a grade V renal trauma associated with a grade III hepatic lesion: is it possible?

Evre III hepatik lezyon ile birlikte olan evre V renal travmanın konservatif tedavisi:
Mümkün mü?

Carla Martinez Menini STAHLSCHMIDT,¹ Fabio Lucio STAHLSCHMIDT,² Luiz Carlos Von BAHTEN,¹
Joao Eduardo Leal NICOLUZZI,¹ Thienes COSTA¹

Conservative management of solid abdominal organ injuries has been increasing and challenging trauma surgeons. This case report describes a successful non-operative management of a grade V renal lesion associated to a grade III hepatic lesion. Such lesions have not been described in conjunction in the revised literature.

Key Words: Abdominal injuries/therapy; closed abdominal trauma; conservative management.

Solid karın organ hasarlarının konservatif tedavisi giderek artmakta ve konservatif tedavi travma ile uğraşan cerrahlara rakip olmaktadır. Bu olgu sunumunda, evre III karaciğer yaralanmasıyla birlikte olan evre V böbrek yaralanması, cerrahi uygulanmadan başarılı bir şekilde tedavi edildi. Bu tür yaralanmalara gözden geçirilen literatürde rastlanmamıştır.

Anahtar Sözcükler: Karın yaralanması/tedavi; kapalı karın travması; konservatif tedavi.

Conservative management of solid organ injuries is already part of a routine clinic practice in level I and II trauma centers. Advances in intensive care units as well as synchronism in multidisciplinary approach allowed expansion of possibilities in this field such as the conservative treatment of two or more solid organ injuries in the same patient. This report refers to the conservative management of two high degree abdominal injuries in a blunt trauma victim. Notice the American Association for the Surgery of Trauma (AAST) organ injury scaling for this patient: right renal grade V and hepatic grade III lesions.

CASE REPORT

A twenty-two-year-old male, victim of a motorcycle-car collision was rescued by paramedics and then admitted into the emergency room of a university hospital. He was complaining of right upper abdominal pain. He was pale and his vital signs were as following: pulse: 96 beats per minute (bpm), blood pressure (BP): 110/70 mmHg, respiratory rate: 16 incursions per minute (ipm) and a Glasgow Coma Scale (GCS): 15, resulted in a Revised Trauma Scale (RTS) of approximately 7. Initial first aid measures were started: supplemental oxygen, venous access, 2 liters of crystalloid infu-

¹Departments of Trauma and General Surgery and ²Radiology, Cajuru University Hospital, (Pontificia Uniersidade Católica Do Paraná), Curitiba, Brazil.

Cajuru Üniversite Hastanesi, ¹Travma-Genel Cerrahi ve ²Radyoloji Anabilim Dalı (Pontificia Uniersidade Católica Do Paraná) Curitiba, Brezilya.

sion and blood tests. Next, the patient was submitted to pertinent radiographic studies that showed no abnormalities. Clinical re-evaluation revealed the vital signs as following: pulse: 120 bpm, BP: 90/70 mmHg. Another 2 liters crystalloid infusion was indicated with improvement of the haemodynamic status (responder).

Once vital signs were stabilized an abdominal computed tomography (CT) was performed and showed two solid organ lesions: a right renal explosion with extravasation of intravenous contrast media-grade V lesion (Fig. 1a) and a hepatic haematoma measuring 5.2 cm involving the right lobe-grade III lesion (Fig. 1b). It also showed considerable amount of free intracavitary fluid.

Again in the ER, clinical data demonstrated a new onset of haemodynamic instability with increase in pulse rate and BP: 80/70 mmHg.

Volemic reposition with 1 liter of crystalloid and 2 packed red blood cells (PBC) stabilized the vital parameters at once.

This patient was maintained stable in intensive care unit (ICU) for 72 hours with clinical and laboratory controls. Consecutively, abdominal ultrasounds revealed diminution in free intracavitary fluid. An intravenous urogram demonstrated contrast media elimination in both kidneys with a delay in the injured one. His total hospital stay was 10 days and he was discharged with analgesics, orientations and ambulatorial return.

Four months after the trauma, the patient was asymptomatic and had a normal renal function. Abdominal CT performed with control purpose revealed one cystic post-traumatic lesion measuring 1.7 cm in hepatic V Couinaud segment (Fig. 1c) and a retracted area with no contrast enhancement in anterior aspect of the right kidney (Fig. 2). Renal elimination of the contrast media was in physiologic time bilaterally (Fig. 3).

DISCUSSION

Indications for surgical management in blunt solid abdominal organ injuries have diminished in recent years.^[1-3] These indications include: life-threatening bleeding and formerly, accompanying extraabdominal or intraabdominal lesions^[2,4-8] as

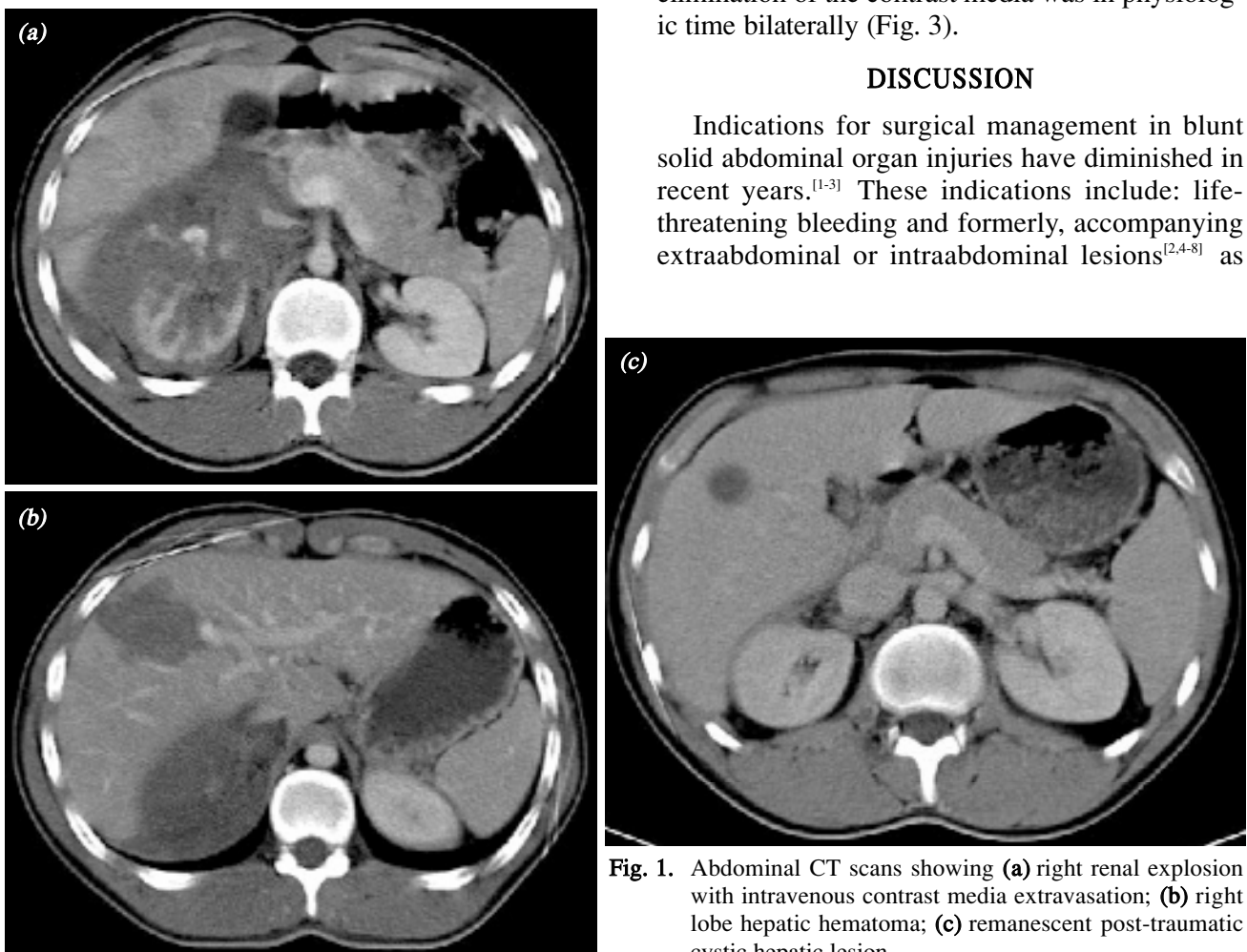


Fig. 1. Abdominal CT scans showing (a) right renal explosion with intravenous contrast media extravasation; (b) right lobe hepatic hematoma; (c) remanescant post-traumatic cystic hepatic lesion.

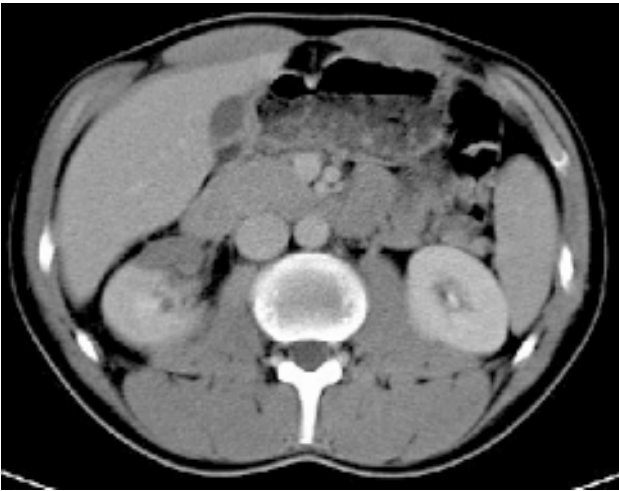


Fig. 2. Abdominal CT scan showing avascular retracted post-traumatic scar in renal parenchyma.

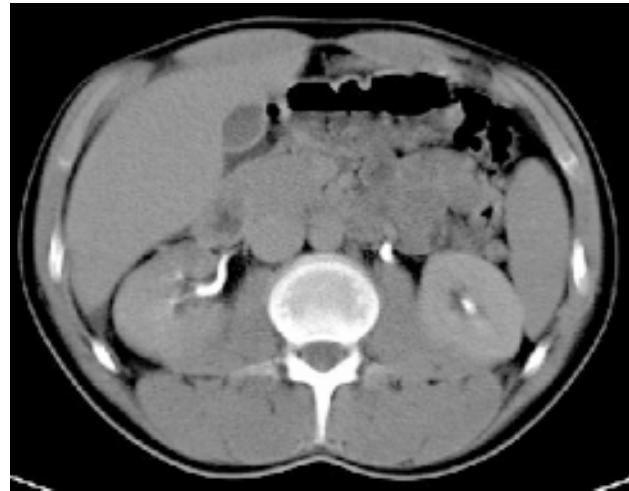


Fig. 3. Abdominal CT scan in urogram phase with elimination of intravenous contrast media.

well age greater than 55 years.^[5] Another isolated factor indicating surgery was purely the ASST injury scale. High grade lesions suggest the need of surgical exploration.^[9-15]

Some studies verified that conservative treatment of major blunt renal or hepatic trauma is appropriate in haemodynamically stable patients.^(1,16-19) However, the association of two or more solid organ lesions is a predictor factor of failure in the conservative approach.^[4,19-23]

This case refers to a successful nonoperative management of a high grade (V) renal blunt injury associated with an intermediate (grade III) hepatic blunt lesion. Both injuries were graded based on abdominal CT scan findings.^[24-30] Renal trauma like as splenic trauma is an independent risk factor for failure in conservative approach as is the need for blood transfusion and the amount of free intraabdominal fluid larger than 300 mL.^[8-11] The patient reported here had all these factors and yet no complications developed during the treatment and follow-up.

The transient haemodynamic instability observed in the case did not indicate surgical exploration once blood transfusion stabilized the patient's vital signs. Close clinical monitoring in the ICU setting and surveillance with laboratorial and imaging control studies had excluded problems such as delayed bleeding from renal and hepatic injury or urinary leakage. These circumstances helped in

decisions for maintenance of conservative management in this controversial case. It is also worth remembering that such reports have not been found in the indexed researched literature.

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