

Incidence of renal bleeding in patients under non-operative treatment in Hospital João XXIII between 2004 and 2008 – A case report

Incidência de sangramento renal nos pacientes em tratamento não operatório no Hospital João XXIII no período de 2004 a 2008 – Relato de caso

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ABSTRACT

Non-operative treatment has been increasingly used for solid organs, improving patients' morbidity and mortality. However, it also raises new challenges, especially with regards to associated complications. This report shows the non-operative treatment approach to renal trauma using embolization, sharing the experiences of the Department of General Surgery and Trauma at the Hospital João XXIII in the city of Belo Horizonte, Minas Gerais, in treating complications associated with bleeding after trauma in non-operative kidney treatment

Key words: Kidney/injuries; Injuries and Lesions/therapy; Embolization Therapy.

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RESUMO

Cada vez mais se tem utilizado o tratamento não operatório em vísceras maciças. Em decorrência desse fato, os pacientes apresentam melhores condições de morbidade e mortalidade, entretanto, novos desafios surgem, especialmente quanto às complicações associadas. Este relato mostra a abordagem de tratamento não operatório de trauma renal com embolização, além de comunicar a experiência do Serviço de Cirurgia Geral e do Trauma do Hospital João XXIII de Belo Horizonte, Minas Gerais, em relação ao tratamento da complicação sangramento associado ao trauma após tratamento não operatório do rim.

Palavras-chave: Rim/lesões; Ferimentos e Lesões/terapia; Embolização Terapêutica.

INTRODUCTION

Renal trauma affects approximately 10%¹ of the victims of blunt or penetrating abdominal trauma. It corresponds to almost 3% of all hospitalizations by trauma² and can lead to several complications and even death. Early diagnosis and adequate treatment can reduce the rates of complication and death, and enable patients to return to their normal lives.

Renal trauma classification follows the American Association of Surgical Trauma (AAST) as well as tomographic findings.^{1,3} Non-operative treatment is often indicated for level I and II^{4,5} injuries while operative treatment is reserved for level III and IV injuries.^{5,6}

In recent years, the relevance of non-operative treatment has increased due to the reduced morbidity and complications associated with the treatment itself, including in the injuries of higher levels.⁷⁻⁹

Embolization is one of the several methods of treatment and can lead to better results.

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CASE REPORT

45 year-old male patient run over by a motorcycle.

At the moment of hospitalization, he presented patent airways, good ventilation and thoracic expansibility, hemodynamic stability, Glasgow coma scale of 15, isochoric and photoreactive pupils, free abdomen and stable pelvis. He also presented a compound fracture in the left leg.

Radiological analysis of the thorax, pelvis, and left lower limb showed tibia and fibula fracture, and he was submitted to surgical orthopedic correction.

Having evolved with stability over 15 hours after admission in the urgency care service, he started complaining of abdominal pain, especially in the left hemiabdomen. He also presented with hematuria.

Full abdominal ultrasound showed no abnormalities. Tomography of abdomen and pelvis showed grade III renal lesion in the lower left pole and a large retroperitoneal hematoma to the pelvis, with patent left ureter. The man remained hemodynamically stable, with left abdominal pain, no signs of peritoneal irritation, hematuric diuresis and pale mucous membranes (++)/++++). Decreased levels of hemoglobin were observed, and packed red blood cells administered, totaling 1,500 mL in five days. During this time, hemoglobin rate stabilized at 9.0 g/dL, and hematuria stopped simultaneously, only to return 24 hours later.

A urinary tract indwelling catheter failed drain urine, and a new ultrasound was needed to check the position of the catheter. It showed a massive clot in the interior part of the bladder and a well-positioned catheter. Continuous bladder irrigation for clot lysis was unsuccessful. Hemoglobin levels decreased again, reaching 7.3 g/dL. A new transfusion of 600 mL of blood was performed and a new abdominal tomography showed, in the arterial phase, contrast extravasation with increase of the retroperitoneal hematoma, as well as clots in the bladder.

The patient underwent selective arteriography in the left renal artery, with subsequent attempted embolization. Hemodynamics showed active bleeding and arteriovenous fistula in the lower left renal pole. Selective embolization with Histoacryl was performed in the lower renal pole. Findings were resolved (Figures 1 and 2).

The urinary tract infection showed evolution and clots were put out through urine.

The patient was discharged 25 days after admission, in good clinical condition.



Figure 1 - Selective arteriography of the left renal artery.

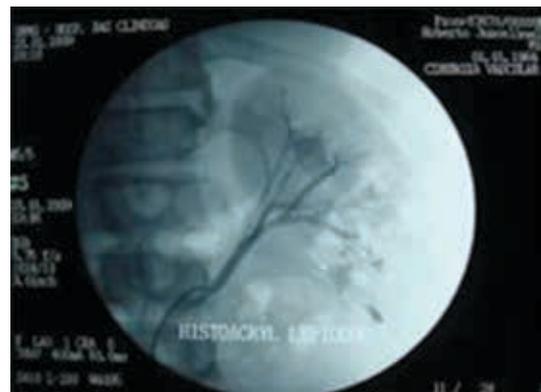


Figure 2 - Selective embolization with Histoacryl of the lower left renal pole.

DISCUSSION

Non-operative kidney treatment is a viable option provided there are suitable conditions for addressing possible complications resulting from that choice.

In this case report diagnosis was made after hospitalization and orthopedic treatment. Non-operative treatment would have been adopted since admission, according to image findings, if carried out.

Operative treatment most often leads to nephrectomy.¹⁰

Hemodynamics is one of the most relevant resources for initial treatment or for treating complications emerging from non-operative approaches.

Out of the 138 renal trauma cases that underwent non-operative treatment in Hospital João XXIII in the 2004-2008 period, only two needed embolization due to bleeding. Both these patients had successful results. In one of the cases bleeding stopped spontaneously. Eight patients were sent to surgery after non-operative treatment failed.

Recovery time in this case was higher than in operative treatment, but the benefits compared to

those of a laparotomy for surgical treatment were evident. Hospitalization average ranged from nine to twenty-two days.¹¹

The patient would probably undergo renal suture or partial nephrectomy, and could even lose his left kidney, had surgical treatment been adopted. Renal preservation is of utmost importance in populations under the risk of kidney failure and dialysis.

Hemodynamic treatment not only preserved the kidney, but also offered benefits if compared to those of operative treatment, and was proven viable in our scenario.

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