CASE REPORT

Spontaneous Ruptured Lumbar Artery in a Chronic Renal Failure Patient

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Introduction

Lumbar artery injuries are encountered infrequently in cases of trauma without lumbar spine or pelvic fractures. In these cases, patients developed lumbar artery pseudoaneurysms, which were treated by open repair or by selective angiographic embolisation. To the best of our knowledge, there is no report on spontaneous rupture of the lumbar artery without a trauma.

We report a case of retroperitoneal haemorrhage due to spontaneous lumbar artery rupture, in a patient with chronic renal failure treated with haemodialysis and steroids. The retroperitoneal bleeding was controlled successfully by selective angiographic embolisation. We emphasise the diagnostic procedures of a chronic renal failure patient with unexplained haemodynamic instability, including computerised tomography, angiography, as well as the selective embolisation procedure.

Case Report

A 72-year-old woman with chronic renal failure was admitted for routine haemodialysis. The patient’s medical history were Diabetis Mellitus type II, cardiovascular hypertensive disease, congestive heart failure and ischaemic heart disease. Drug treatment included prednisone (20 mg) per day. The haemodialysis regimen included access through a peripheral vein three times a week with 5000 units heparin.

After 2 h she complained of an aching pain in the left lower quadrant of the abdomen. Initial evaluation showed a pulse rate of 90 bpm. The blood pressure was 130/80 mmHg. Physical findings revealed local tenderness on the left lower quadrant of the abdomen. The patient underwent computerised tomography (CT) of the abdomen and pelvis, which showed large retroperitoneal haematoma. Ten hours later, the patient became tachycardic with a blood pressure of 100/70 mmHg. The haemoglobin decreased from 11 gr/dL to 8.7 gr/dL, the haematocrit decreased from 33 to 25.2 mg%. The patient was treated by intravenous saline and blood transfusion.

Since the patient remained haemodynamically unstable during the next 8 h, angiography was performed which showed extravasation from a left lumbar artery (Fig. 1). Selective angiographic embolisation of the lumbar artery was successfully performed, the bleeding was controlled and the patient became stable (Fig. 2). Two days later, the patient developed multi-organ failure without evidence of hypovolaemia, and died.

Discussion

Rupture of the lumbar artery is usually associated with pelvic or lumbar spine fracture. Lumbar artery rupture seems otherwise rare and only a few cases have been reported. In these cases, the injury mechanism was blunt trauma or penetrating trauma, leading to pseudoaneurysm with a delay in diagnosis of 8 days to 8 months. Spontaneous rupture in the absence of trauma has not been described in the English-language literature.

In our patient there was no abdominal trauma and the only risk factor was chronic renal failure. Spontaneous bleeding in chronic renal failure patients into the gastrointestinal tract, pericardial sac, or intracranial vault are not uncommon. The reasons for this bleeding tendency are multifactorial. There is decreased
in chronic renal failure. Most of the reports suggested strategies to reduce the potential risk of spontaneous bleeding including regional heparin anticoagulation and minimal heparinisation for chronic haemodialysis patients. Abnormal bleeding times and coagulopathy may be reversed with desmopressin, cryoprecipitate, conjugated oestrogen, blood transfusion, as well as by the use of erythropoietin. We assumed that the pathomechanism in our case was a high uraemia level, since there were no other pre-existing risk factors such as aneurysm.

Computerised tomography (CT) was useful in the initial evaluation, and revealed retroperitoneal bleeding. Abdominal aortogram seems an essential part of the evaluation procedure to locate the source of the bleeding. Treatment can be open repair or selective angiographic embolisation. The latter is associated with less morbidity and reduces the surgical complications as compared with emergency laparotomy and arterial repair.

In conclusion, in a chronic renal failure patient with haemodynamic instability spontaneous occult bleeding should be considered even if there is no previous trauma. One site for such occult bleeding is the retroperitoneum.

References


Fig. 1. Angiography of pelvic arteries revealed lumbar artery rupture and extravasation bleeding.

Fig. 2. Angiography following selective lumbar artery embolisation showed no evidence of extravasator bleeding.


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