Atypical Presentation of a Renal Infarction in a 43-Old Patient

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Abstract
A 43-year-old patient with no pathological background who goes to emergency department complaining of non-specific diffuse abdomen pain for several days that has been increasing in intensity lately. The patient did not have any treatment and did not report anything unusual. A complete physical evaluation was made with a normal result. An X rays, an abdominal ultrasound, urinary exam did not show any specific findings. Routine analysis was practically normal, but a considerable elevation of a lactic dehydrogenase and C reactive protein were observed. Later Computed tomography reveals a considerable renal infarction. The patient was admitted for treatment.

ABBREVIATIONS
CVD: Cardiovascular Disease; LDH: Lactate Dehydrogenase

INTRODUCTION
A Renal infarction is a rare pathology, the incidence of this disease varies from 0.7 to 1.4 percent depending on the study [1,2]. However, it is underestimated because many patients are not diagnosed at all, or in time. It is easily confused with other urinary tract affections especially when the presentation is not typical, therefore the real incidence if this pathology is probably higher then reported [3].

The clinical presentation varies from a silent one in a relation to a small infarction to more florid clinical presentation including nausea, vomiting, pain in the lumbar fossa, fever, leukocytosis and marked elevation of lactic dehydrogenase (LDH). The Renal function may or may not be affected, being most frequent a transient elevation of plasma urea and creatinine [4]. The treatment for renal infarction due to thromboembolism, is mainly in situ artery thrombosis. Sometimes a renal artery dissection might be performed, but there is a lack of comparative studies to define a standard procedure. Other reports suggest an approach including anticoagulation or endovascular therapy. We present a case report of a 43 years old female patient, with an atypical presentation of in a renal infarction.

CASE PRESENTATION
A 43 years old female patient that arrived to the emergency room of Juaneda Miramar Hospital complaining of non-specific diffuse abdominal pain of several days of evolution that has increased in intensity the last 72-96 hours and nausea without any vomiting. The patient did not report any treatment or any other unusual background. The abdominal exploration: abdominal sounds without alteration, soft and depressible abdomen, slightly painful with no specific exacerbation after the exploration, negative renal fossa percussion. A normal electrocardiogram. The initial analysis showed: hemoglobin 11.6 g/dl, hematocrit 35.9%, Leucocytes 9800 (75% neutrophils and 17.6% lymphocytes), platelets 179.000. A normal coagulation values, urea 23 mg/dl, creatinine 0.71 mg/dl, sodium 141, potassium 3.9 meq/l, amylase 45 U/l, lipase 8 UI/l, C reactive protein 226,00 mg/dl, lactic dehydrogenase of 453 mg/dl. Abdominal ultrasound was strictly normal as well as the urinary exam. The pain didn't calm after endovenous analgesia. The patient was diagnosed with a nonspecific abdominal syndrome by emergency room physician and admitted to intern medicine service to complete further studies. After 24 hours of admission, a computed tomography was requested showing the next findings (Figure 1): right renal infarction, slight ectasic dilatation of the right renal artery in its distal third with abrupt amputation of its dorsal branch immediately post bifurcation as a cause of infarction.

With the diagnosis of right renal infarction of several days of evolution a treatment with heparin follow by warfarin was started. Even if an important affection of a right kidney was observed, the patient was discharged with a normal renal function and a regular follow up by the nephrology department.

DISCUSSION
The renal infarction is a rare pathology. The main causes of a renal infarction are thromboemboli with heart thrombi as an
origin and an in situ thrombosis causing an occlusion of a branch or a main renal artery. In this case report, the echocardiogram was normal, therefore the source of the infarction should be other. The median age differed depending on the underlying etiology: cardiogenic (65 years), renal artery injury (43 years), hypercoagulable state (62 years), and idiopathic (49.5 years). The hypercoagulable state, in this patient, was discarded later by hematology. Patients in the cardiogenic group tend to have a history of hypertension, cardiovascular disease (CVD), diabetes mellitus, heart valve disease, and atrial fibrillation than their counterparts from the other group [5].

The clinical presentation in this case is not a typical one. The patient did complain of nonspecific abdominal pain, with practically normal blood test, a normal abdominal exploration, a normal abdominal ultrasound and the only atypical finding was the elevation of lactic dehydrogenase and the reactive protein C. The urinary exam was normal ruling out a urinary infection. This presentation might occur in a small renal infarction where only a small proportion of the organ is affected, this was not the case, showing the computed tomography an important affection of the right kidney, not see previously on the abdominal ultrasound, leading to a confusion and therefore loss of time for the correct diagnosis and a proper treatment.

As for the treatment options, if the source is a thromboembolus, in situ thrombosis is the best option. Patients with an acute renal artery occlusion, a percutaneous endovascular therapy might be the best choice unless contraindicated. In other cases, patients with a prolonged ischemia and that might have formed a collateral circulation aggressive therapy will reduce the potential benefits of correcting the renal artery occlusion. Prolonged ischemia also reduces the likelihood that there will be viable tissue, therefore an anticoagulation might be good treatment option [5]. Such patients begin with intravenous heparin or low-molecular-weight, followed by warfarin for three to six months, followed by aspirin indefinitely. In this case, a prolonged abdominal pain might indicate a prolonged abdominal thrombosis, even if the clinic has exacerbated in the last 72-96 hours. After the radiology consult, the anticoagulation seems to be the best option for this patient. A prognosis depends mainly on the cause and the patient morbidity, however, an early diagnosis and treatment is more beneficial for all groups of patients. Atypical presentation of the pathology can be seen as well, leading to a misdiagnosis and a loss of time in treatment start. Even is the clinical presentation varies from small to large renal infarction, large renal infarction with a normal renal function can be seen as well.

REFERENCES