Splenic arterial dissection and factor V Leiden mutation causing massive spleen infarction

Key words: Spleen infarction. Splanchic artery dissection. Factor V Leiden.

Dear Editor,

Arterial dissection is a very rare complication affecting splanchic arteries. We report here a massive spleen infarction due to a dissection of splenic artery associated to factor V Leiden mutation.

Case report

A 48 year-old man was referred to emergency ward because of pain on the left side of the abdomen and low-grade fever, triggered by moderate physical exercise. He smoked 20 cig./day but denied hypertension, diabetes or dislipidemia. Physical examination was unremarkable. Serum biochemistry showed total cholesterol 255 mg/dL, LDL cholesterol 167 mg/dL, HDL cholesterol 35 mg/dL and triglycerides 250 mg/dL. EKG, heart and abdominal ultrasound were normal. An abdominal scan showed a spleen infarction affecting 60% of the gland. A CT angiogram and a selective celiac trunk angiogram showed a reduction of the lumen of the splenic artery, suggesting dissection and mild atherosclerosis (Fig. 1). Test for prothrombotic states confirmed the G1691A factor V Leiden mutation. After being admitted to the hospital, enoxaparin was administered and the spleen was surgically removed. Pathological examination confirmed both splenic infarction and arterial dissection (Fig. 2). Patient was discharged with warfarin and atorvastatin.

Discussion

Our report shows an unusual case of massive splenic infarction associated with splenic arterial dissection in a smoker and dislipemic middle-aged adult, carrier of G1691A factor V Leiden mutation. Splachnic arterial dissection is exceptional (1), mainly asymptomatic, few occasions with abdominal pain, and usually found incidentally during an X-ray examination looking for any disease (2). Splachnic arterial dissection has been associated to vascular risk factors, atherosclerosis, fibromuscular dysplasia, abdominal trauma, systemic disorders and vascular inflammation (2,3). Outcomes ranges from spontaneous cure to occlusion, aneurism or rupture (2). Non complicated cases are managed with antiplatelet or anticoagulant therapy and blood pressure control (3), but surgery is indicated when thrombosis, occlusion, rupture or ischemia develops (3-5).
In a recent review, just 1 out 24 cases with celiac trunk dissection had splenic infarction (2). The G1691A factor V Leiden confers resistance to activated protein C and increases risk for deep vein thrombosis and pulmonary embolism (6). Although an association to arterial thrombosis has not been reported, we believe the mutation of factor V Leiden found in our patient contributed to the thrombosis and massive infarction triggered by splenic arterial dissection.

In conclusion, we support that splenic artery dissection should be included in the list of conditions causing acute abdominal pain, especially among middle-aged men.

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References


Fig. 2. Optical microscope image. Dissection of the tunica media of the splenic artery, using Masson’s trichrome stain. The muscular tissue of the tunica media and the red blood cells are dyed red, ad the connective tissue is dyed blue.