



Aneurysm of The Superior Mesenteric Artery Associated With A Cardio-Renal Syndrome About A Case in Mali

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Abstract

The authors report a rare association of superior mesenteric artery aneurysm and cardio-renal syndrome is a complex clinical and therapeutic entity of cardiovascular and renal pathology whose prognosis depends on the precocity of management. We report a case of superior mesenteric artery aneurysm in a 36-year-old hypertensive patient, suffering from terminal renal failure complicating with stage 2 cardio-renal syndrome who underwent a hemodialysis session and a literature review.

Introduction

The cardiorenal syndrome (CRS) is a pathophysiological disorder of the heart and kidneys in which chronic or acute dysfunction of one can induce chronic or acute dysfunction of the other. The aneurysm of the mesenteric artery aneurysm is a permanent and localized dilation of the superior mesenteric artery 20mm. The superior mesenteric localization of arterial aneurysms is very rare and poses both diagnostic and therapeutic difficulties [1]. This association of two entities is rare and makes management difficult from a diagnostic and therapeutic point of view. We report a case treated at the Mother Child Hospital of Bamako and review the literature.

Observation

Patient 36-year-old hypertensive known under medical treatment admitted for acute abdominal pain evolving for 5 days in a context of physical asthenia, without fever. At the entrance, we found a fairly good general condition with colored conjunctivae, the peripheral signs of cardiac congestion. Consciousness is clear with blood pressure: 160/110 mmhg, SaO₂: 97% temperature 37.9°C. Heart sounds are audible and regular without added sounds. The abdomen was soft with a mobile mass, expansive and not beating in the epigastric region. The lungs were free. The vascular examination was normal and the rest of the examination is unremarkable.

The abdominal ultrasound showed sacciform dilation of the superior mesenteric artery and the presence of moderately abundant intraperitoneal effusion. The kidneys are poorly differentiated hyperechoic with renal suffering. CT angiography of the abdomen showed a 23x18mm spindle-shaped aneurysm developed at the expense of the superior mesenteric artery compressing the abdominal aorta (Figures 1 and 2). The heart echo showed hypertensive heart disease with an ejection fraction of 50%.

Biology found creatinine clearance 8 ml/min, microcytic anemia 6 g/dl. HIV, hepatic B and C serologies are negative. In view of this table, the diagnosis of a cardio-renal syndrome associated with an aneurysm of the aneurysm of the mesenteric artery was made. The aneurysm of inflammatory origin is probable. He received three sessions of hemodialysis by femoral catheter at a rate of 400ml/min for 4 hours. The evolution was favorable. The indication was made and not carried out. We decided to perform an exploratory emergency laparotomy but the patient refused surgery for personal reasons. The evolution was marked for hemodialysis sessions by femoral catheter. The postoperative course was marked by a sudden cardio-respiratory arrest

Discussion

The incidence of renal artery aneurysms (RAA) varies from 0.01% in autopsy series [3] to 1.5% in those of patients who underwent arteriography, or even 2.5% in the series renal

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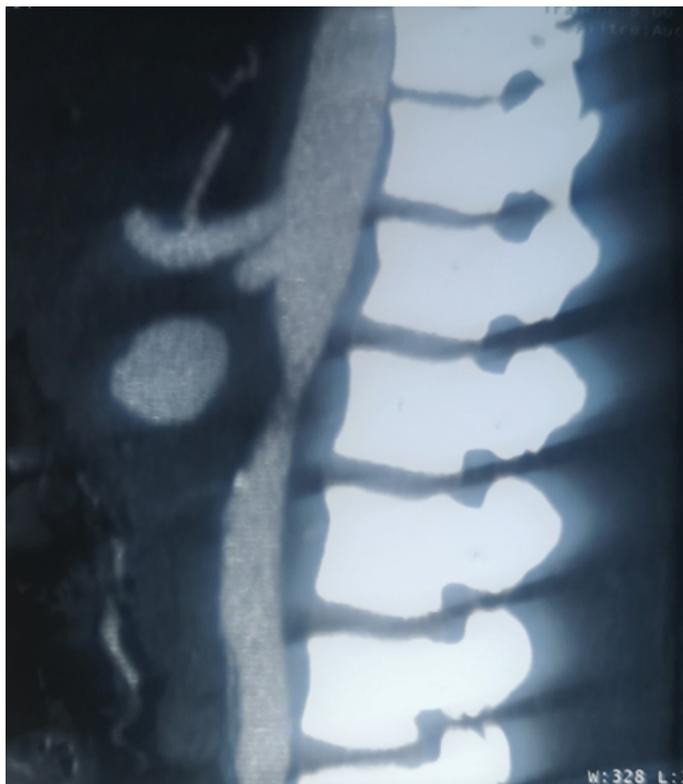


Figure 1. Mesenteric artery aneurysm compressing the abdominal aorta.



Figure 2. Bulky AMS and right renal hypoperfusion.

fibromuscular dysplasia. They represent 1% of all arterial aneurysms and 10% of visceral aneurysms. The preferred age of AAR is between 40 and 60 years [1,2]. of AMS is progressive. But, one can think that an aneurysm of the SMA carries out hemodynamic disturbances equivalent to a progressive stenosis of the artery [4,5]. Valid and sufficient communications between the territories of the SMA and that of the 2 neighboring arteries are ensured by the arcade of RIOLAN with the inferior mesenteric, by the pancreaticoduodenal arcades and by the artery of RIO-Branco with the

celiac trunk . Collateral circulation can also occur between the left colic branch of the inferior mesenteric artery and the left branch of the middle colic artery [5,6]. Therefore, the SMA and its branches, far from behaving like terminal arteries, have very rich anastomoses that vary from one subject to another. It therefore follows from all this that a blood supply is possible to supplement the needs caused by the deficiency of the SMA. In our patient, CT angiography confirmed the Doppler ultrasound data and clarified the origin of the aneurysm, which was at the expense of a branch of the SMA [6,7].

Indeed, surgery is justified by the risk of thrombosis but especially of rupture of the aneurysm leading to complications that are serious and can be fatal. On the other hand, the satisfactory results, both symptomatically and progressively, of SMA aneurysm surgery still justify the indication for surgery [8,9]. This surgical treatment opposes two methods: one preserves the continuity of the arterial flow and the other removes it. Among the methods that preserve the continuity of arterial flow, the most satisfactory is resection of the aneurysm with revascularization of the superior mesenteric territory by aortic reimplantation of the distal segment of the artery or by interposition of an aorto-mesenteric prosthesis. This technique is feasible in Mali, which was recommended for our patient. This technique assumes good quality arterial walls, a sufficient caliber of the distal segment, a correct downstream bed without extensive thrombosis [10,11]. Methods that interrupt the continuity of arterial flow are obliterating endo-aneurysmorrhaphy and mesenteric ligation, which is particularly desirable in cases of infectious etiology [12,13]. This association with a cardio-renal syndrome is the source of formidable complications for this patients.

Conclusion

The aneurysms SMA associated with cardio-renal syndrome are rare. But you should always think about it in the face of epigastralgia of moderate intensity and carefully palpate the abdomen in search of a deep mass with vascular characteristics. Angiography is the key to the diagnosis and guides the surgical intervention which is the only one able to prevent the progressive complications of the aneurysm. Endovascular remains an alternative for this pathology in Mali.

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