

“Spontaneous Isolated Dissecting Aneurysm of Distal Celiac Artery”- A Rare and Lethal Incidental Finding

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Introduction

Aneurysm of celiac artery is an uncommon occurrence with nearly 180 cases being reported in the literature so far [1]. These have been attributed to traumatic, iatrogenic and inflammatory being amongst few associated etiological factors. Spontaneous isolated dissecting aneurysm of celiac trunk is a rare occurrence with very few cases being mentioned in the published literature. Although the rate of rupture was 72% to 87% during the 1st half of the 20th century, advances in diagnostic imaging and early surgical intervention have reduced the rupture rate to 7% in recent years [1]. Early recognition and urgent intervention is required to prevent fatal complications like intraperitoneal rupture. Authors present a case of isolated spontaneous dissecting aneurysm of distal celiac artery in a fifty five year old male patient with alcoholic cirrhosis.

Case Report

A 55 year old male patient who was a known case of alcoholic cirrhosis presented to outpatient department with a recent onset right upper abdominal pain since 3-4 months. His pain was gradual in onset, slowly progressive, non migrating, dull in character, mild in intensity and was strictly localised to right upper abdomen. Physical examination was unremarkable except for pedal edema and hypertension which was being treated with antihypertensives from past three years. Laboratory investigations revealed mildly elevated Serum bilirubin (2 gm/dl) and liver enzymes. He was Child- Pugh class A. Based on the fact of recent onset dull pain abdomen, a clinical suspicion of hepatocellular carcinoma was made in the background of cirrhotic liver. Patient was subjected to Doppler study which apart from cirrhotic liver revealed aneurysm of celiac artery (2.5 × 2 cm) with intrinsic turbulent flow. Splenic and common hepatic arteries were seen at the distal portion of aneurysm with normal origins and colour flow. Based on these findings patient was advised for computed tomography angiography (CTA) of abdominal vessels to achieve a perfect delineation of the aneurysm. CTA, to our surprise, revealed the aneurysm to be a

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dissecting aneurysm with internal hypodense flap extending from right wall of celiac artery [appx 4 cm distal to origin] all the way till the origin of common hepatic artery [CHA]. The intimal flap divided the aneurysm into true and false compartments with true compartment lying anterolaterally from which both the splenic and CHA were seen to arise. Rest of the splanchnic arteries were normal in calibre, contrast opacification and had normal mural thickness. Abdominal aorta appeared unremarkable except for few discrete calcific plaques in distal segment near bifurcation. Retrospective evaluation of Doppler was done to visualise the intimal flap which revealed a faint echogenic line within the aneurysm. Since no other splanchnic artery was involved and neither the patient gave any history of trauma or catheterisation, we suggested a diagnosis of isolated spontaneous dissecting aneurysm of celiac trunk. As the dissecting aneurysm was large enough emergent management was advised. The anatomy of the dissection was such that placing a stent graft was not considered an option as it would have obstructed the splenic artery from its origin [due to lack of sufficient landing zone] which was not desirable. Hence a decision to perform endovascular repair was taken and was explained to patient which to our surprise was refused as he did not consider his symptoms severe enough to warrant surgery. The patient was lost to follow up after his initial titration of dosage of antihypertensives.

Discussion

Celiac artery aneurysms are one of the rarest forms of splanchnic artery aneurysm with the first case reported in 1745 by Lancissii et al. [2]. The estimated incidence of celiac artery aneurysms ranges from 0.005% to 0.01% [3]. Spontaneous dissection of renal arteries is described more often than celiac artery [4]. Dissection of an artery occurs when there is break in intima with resultant entry of blood into the media thereby formation of flap and a channel of blood between intima and adventitia popularly known as the 'false lumen'. This false lumen can then extend both proximally and distally with involvement of the origin of various major or minor arteries [5]. Risk factors listed at previous reports include hypertension, cystic medial necrosis, abdominal aortic aneurysm, fibro muscular dysplasia, trauma, pregnancy, and connective tissue disorders. However many of the cases may not reveal any definite risk factor [6].

The most common presenting symptom of celiac artery dissection is pain in abdomen. An extensive search of literature reveals only three other cases which had spontaneous isolated dissection of celiac artery without any branch vessel involvement or visceral damage [6]. Amongst them also, only one of the case reported by Rama Krishnan et al had dissecting aneurysm of the celiac artery [7]. Unique feature of our case apart from it being isolated spontaneous dissecting aneurysm is that the dissection originated nearly 4 cm away from the origin of celiac artery and terminated at the origin of common hepatic artery (CHA) with both the CHA and splenic artery arising from the true lumen and was well patent.

Traditional open surgery along with endovascular surgery and interventional radiological approach are invasive options for the treatment of splanchnic artery dissection. In case of celiac artery dissection, Glehen et al. recommend surgical repair in the presence of complications like occlusive lesions, aneurysm formation, and arterial rupture, or extension of the CAD into hepatic arteries [8]. Rama Krishnan et al. in their case had embolised the aneurysmal sac with microcoils since good collateral circulation from superior and inferior pancreaticoduodenal arteries allowed retrograde filling up of the hepatic and splenic arteries. Other viable endovascular option is to place a stent graft across the dissection but that needs a good 2 cm landing zone on either side [7]. In our case endovascular surgery was considered as it was thought that no sufficient landing zone was available distally and it would have lead to sacrifice of the splenic artery. Patient denied surgery but was given well adjusted dosage of antihypertensive before he was lost to follow up.

Spontaneous isolated dissection of celiac artery is rare with dissecting aneurysm being rarer in occurrence. Most common presenting symptom if present at all in these cases is pain abdomen. Our case highlights the importance of the fact that spontaneous isolated dissecting aneurysm of celiac artery can be encountered and these may arise quite distally from the origin of celiac artery. The awareness of this occurrence is important for clinicians and radiologists alike in order to achieve diagnosis and adequate timely treatment.

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