Mycotic Aneurysm Of The Superior Mesenteric Artery

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Citation

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Abstract

Mycotic aneurysm of mesenteric artery is an uncommon complication of infective endocarditis. Early diagnosis is important and surgical intervention is often needed for effective treatment of mycotic aneurysm of mesenteric artery because of the high incidence of aneurysm rupture. We experienced a case of infective endocarditis complicated with mycotic aneurysm of the superior mesenteries artery in a 20 years old known case of chronic RHD female, who was admitted because of fever, vomiting and pain abdomen. Echocardiography detected mitral stenosis, mitral regurgitation and vegetations on the mitral valve. Her CECT and angiogram revealed 7x3.5 cms aneurysm of superior mesenteric artery. Excision of the aneurysm done, after proximal and distal ligation of the superior mesenteric artery. Intestinal viability confirmed per-operatively and than post operatively with re-look laparotomy. Histo-pathological report was suggestive of mycotic origin. The aim of presenting this report is to highlight the rare complication of mycotic aneurysm of superior mesenteric artery in a patient of rheumatic heart disease with infective endocarditis and its successful management.

INTRODUCTION

Superior Mesenteric Artery (SMA) aneurysm is rare being observed in one in every 12,000 autopsies. only 5.5% of 8% of cases of visceral aneurysm and less than 0.5% of all intra abdominal aneurysms are sma aneurysm. mycotic aneurysm of superior mesenteric artery is still rarer, with only few case reports available in the literature. with the increase in intra venous drug abuse and immunosuppression due to hiv, chemotherapy and intravascular intervention the incidence of mycotic aneurysm is increasing. however with the awareness and refinement in the treatment of rheumatic heart disease and infective endocarditis, the complication of mycotic aneurysm is rare to see. we report a case of mycotic aneurysm of superior mesenteric artery in a patient of chronic rheumatic heart disease with infective endocarditis.

CASE REPORT

A 20 year old female, known case of chronic rheumatic heart disease was admitted with high fever, vomiting and pain abdomen, in the medical ward. As she was already started on broad spectrum antibiotics, her repeated blood cultures were sterile. She was thin built, pale with leucocytosis (20,000cells/cumm) and high ESR (80). Echocardiography detected severe mitral stenosis, mitral regurgitation and vegetations on the mitral valve. Close examination of her abdomen revealed an ill defined tender, pulsatile mass of 10x5 cms in the umbilical region. Contrast enhanced CT scan confirmed an aneurysm of superior mesenteric artery. To study the vascular pattern and collateral circulation an angiogram was done. Angiogram showed a 7x3.5 cms saccular aneurysm of middle 1/3rd of superior mesenteric artery. Aneurysmal sac was partially filled with thrombus and there was no distal runoff, suggestive of occlusion of distal SMA. She was planned for surgery with midline laparotomy. There were dense adhesions around the aneurysm, proximal and distal control achieved and non traumatic vascular clamps applied. The intestinal viability confirmed with appearance and hand held Doppler. Ligation of the proximal and distal ends of SMA and excision of the aneurysm done. The specimen sent for histo-pathological examination. A re-look laparotomy was performed after 48 her to reconfirm the intestinal viability. Her post operative period was uneventful and she was discharged on 8th post op day with an appointment with cardiac surgeon for mitral valve replacement. Her histo- pathologic report of the specimen revealed a mycotic aneurysm.

Figure 1

Figure 1: CT Angio of the abdomen

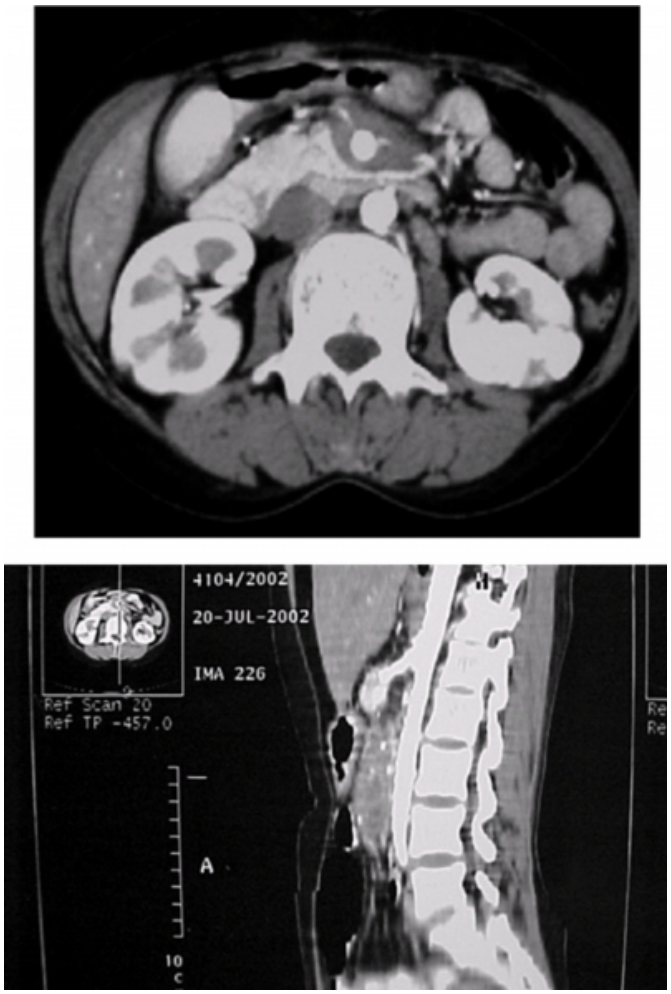


Figure 2

Figure 2: Selective angiogram showing the SMA aneurysm

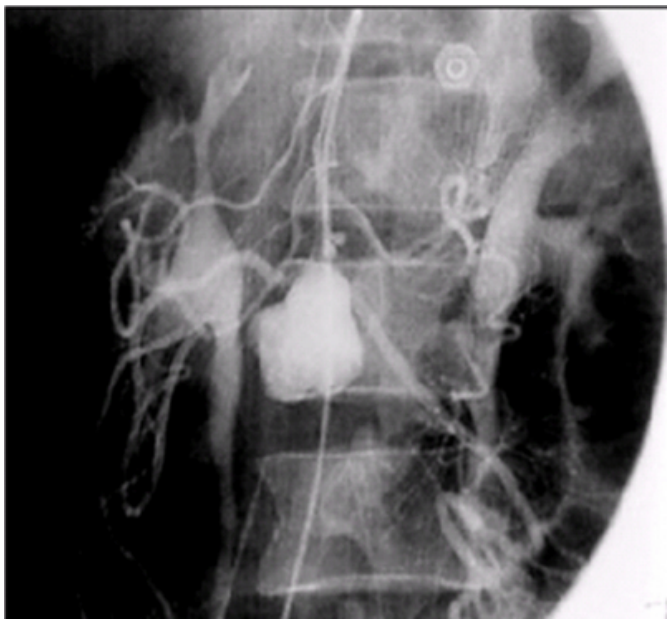


Figure 3

Figure 3: SMA and aneurysm

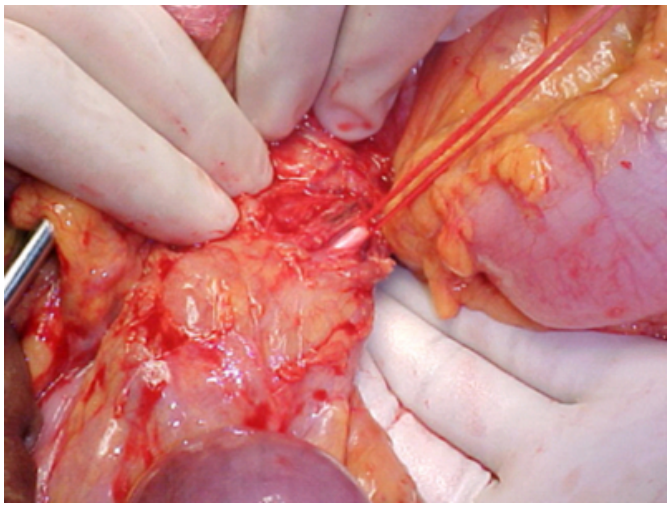


Figure 4

Figure 4: SMA aneurysm

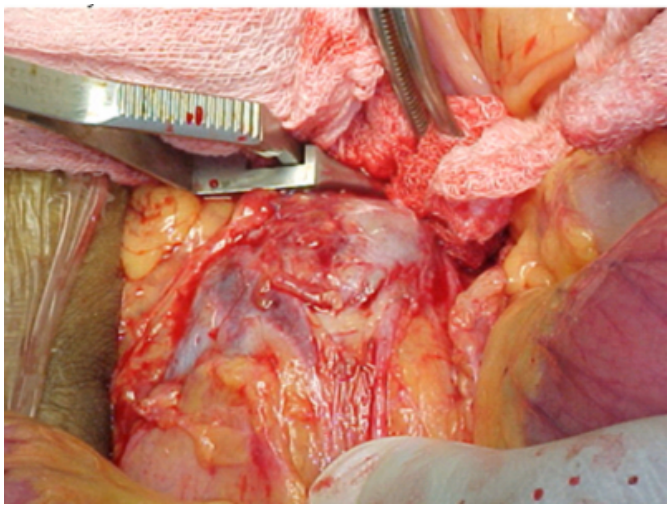
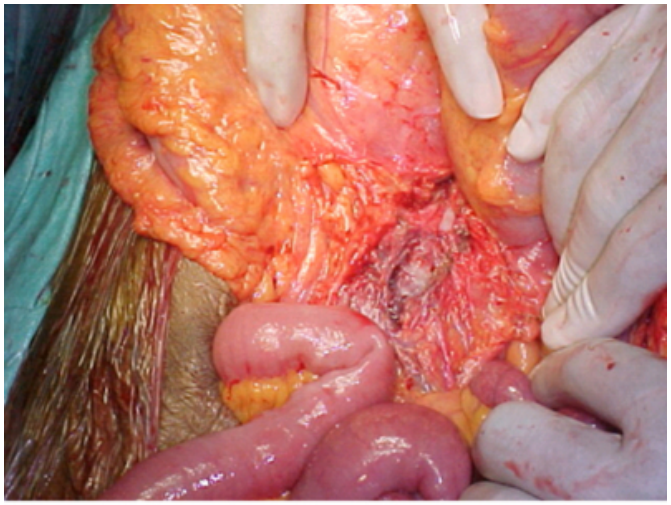


Figure 5

Figure 5: SMA aneurysm (sac opened)



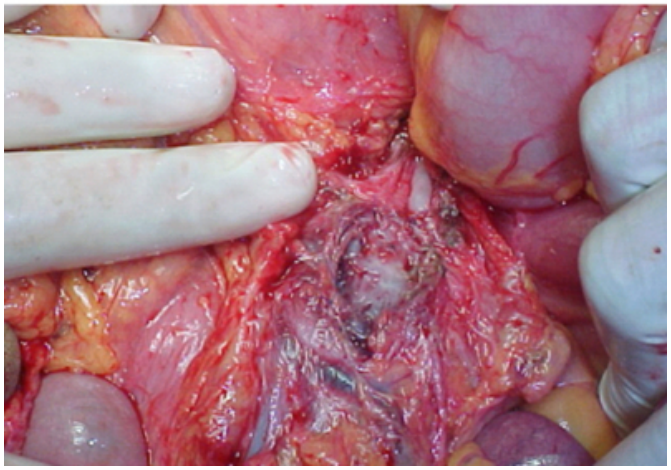
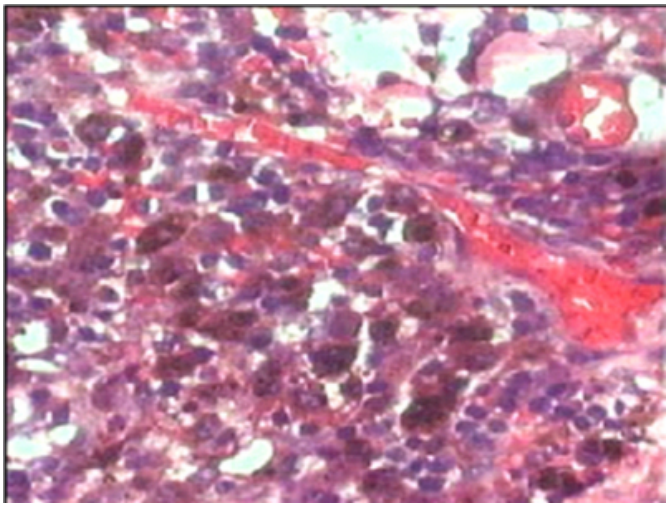


Figure 6

Figure 6: Histopathological examination is suggestive of mycotic aneurysm



DISCUSSION

Mycotic aneurysm was first described by Osler in 1885([1]). The classical description was that of infective aneurysms secondary to rheumatic endocarditis and did not imply a fungal etiology; hence the term “Mycotic” is a misnomer. Instead the term infective aneurysm has been recommended ([2]).

Superior mesenteric artery aneurysm is a rather rare illness. Inflammatory process is the cause in 60% of them, often connected with endocarditis and mycotic infection. In patients with infective endocarditis and mycotic aneurysm, there is 4-6% risk of superior mesenteric artery to get involved in it ([3]). Most SMA aneurysm is symptomatic. The most frequent symptom is severe abdominal pain, which increases gradually. Nausea, vomiting jaundice, hemobilia and gastrointestinal bleeding may occur occasionally. A pulsatile mass is observed in 50% of cases. The most dreaded complication is aneurysm rupture and thrombosis. Physical findings, hematological investigations, echocardiography and ultrasound help in diagnosing the entity, whereas CT scan and angiogram confirms it ([4]).

All diagnosed SMA aneurysm must be treated. Spontaneous rupture may occur in the up to 50% of cases. Intra- operative death rate amounts to 30 %([5]). The type of treatment depends mainly on the etiology of the aneurysm and an intestinal viability. The first surgical treatment of SMA aneurysm was reported in 1953 by DeBakey and Cooley. The correction consisted of proximal and distal legation with resection of the area affected by the aneurysm. The simple ligation proximally and distally to the aneurysm with intra

operative assessment of intestinal viability is the treatment of choice, when there is no evidence of infection. Mycotic aneurysm should be treated by aneurysm resection, debridment of the infected area and with broad spectrum antibiotics. Aneurysmorrhapy can be used for saccular aneurysm and disease free arteries, thus preserving the lumen. Revascularization is indicated if there is visceral ischemic involvement after arterial legation. The use of prosthesis is prohibited in the presence of infection. In these cases, use saphenous vein interposition graft or a graft with same material is recommended. Aorto- mesenteric bypasses are less frequently used ($_{6}$).

CONCLUSION

Mycotic aneurysm of mesenteric artery is an uncommon complication of infective endocarditis. Early diagnosis is important and surgical intervention is often needed for effective treatment of mycotic aneurysm of mesenteric artery because of the high incidence of aneurismal rupture and death. Majority of the patients needs proximal and distal ligation of the SMA and excision of the aneurysm. In cases with doubtful intestinal viability reconstruction of SMA is preferred after aneurysm excision.

CORRESPONDENCE TO

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