A Rare Case of Massive Systemic Embolisation Secondary to Atrial Myxoma- Case Report

Muhammad Amin Abdul Uloom

RMO, Department of Cardiothoracic/Vascular surgery, Auckland City Hospital, Auckland, New Zealand

SUMMARY

We report a case of a 21 year old girl who presented with sudden onset of abdominal, back and bilateral leg pain, paralysis with unexpected collapse at home. Physical examination was suggestive of acute aortic occlusion. CT-angiogram revealed multi-system thrombo-embolic shower. She proceeded to urgent aortic thrombectomy and fasciotomy of the bilateral lower limb. Further investigation revealed atrial myxoma and we report the patient's post-operative progress and eventual transfer to rehabilitation facility.

INTRODUCTION

A 21 year old female presented with sudden onset of abdominal, back and bilateral leg pain with collapse at home. Past medical history was unremarkable apart from 3 pack years of smoking. When found following collapse, she was seen to be confused but obeying commands.

Examination on admission revealed bilateral paresis below the groin. Equal bilateral radial pulses. Blood pressure was 128/80 with absent bilateral femoral and lower limb pulses. Right ankle was fixed and rigid. Right calf was tense with fixed staining of the right forefoot.

CT head showed lesions in her vertebrobasilar territory. CT angiogram confirmed an occlusion of the infrarenal abdominal aorta (AA) and both common iliacs with reconstitution of the distal external iliacs bilaterally, common femorals (CFA) with otherwise preserved flow into the left lower limb but a shunt right popliteal artery occlusion. Multiple bilateral renal infarcts and splenic infarct were also noted (Figure 1). An unusual mass was noted in the left atrium adjacent to the appendage, suggestive of a myxoma. Trans-esophageal echocardiogram (TOE) showed a mass with friable margin estimated about 5x5cm attached to intra-atrial septum in the left atrium (Figure 2). Left ventricle was severely dilated with reduced left ventricle ejection fraction of 20% suggestive of thrombus.

PROCEDURE

Patient was systematically heparanised prior to proceeding to theatre. Longitudinal groin incisions were used to expose the CFA and its bifurcation. A size 5 Fogarty was then passed up to the aorta bilaterally with retrieval of amorphous, tan coloured, myxomatous embolic material. A size 4 Fogarty was passed down the right superficial femoral artery (SFA) but would not pass part of the knee joint.

500,000 units of urokinase were instilled downstream and the arteriotomies were closed with saphenous vein patch with restoration of bilateral femoral pulses. Given the duration of ischaemia and tense calf muscles, bilateral 4 compartment fasciotomies were performed. The muscles were not noted to be profoundly ischaemic. A Right popliteal thrombectomy retrieved fresh thrombus and similar jelly-like material with good restoration of good antegrade and retrograde flow. The right popliteal artery arteriotomy was then closed with a vein patch.

The patient was then put on inotropic support and transferred intubated to the cardiovascular ICU.

POST-OPERATIVE

Later the same day, patient proceeded to have a resection of the atrial myxoma which was eventually confirmed on tissue analysis. Her recovery period was complicated by slow neurological improvement related to new embolic changes in her brain, acute renal failure and chest infection. After 29 days she was transferred to rehabilitation facility without any significant neurological deficit.

DISCUSSION

Myxoma is the commonest primary cardiac tumour and is classified as benign in nature. 90% of the cases occur in the atria[1] mainly left atrium. A Study by Pinede *et al* of 112 cases in which 72 patients were female of atrial myxoma from 1959-1998 showed that systemic embolisation is one of the commonest presentations apart from intracardiac obstruction and systemic symptoms. It pointed out that prevalence of brain embolisation in atrial myxoma was as high as 20%[2]. This study also showed despite higher prevalence of atrial myxoma in female, systemic embolization is actually more frequent in male.

This case was different from other published cases mainly due its lack of presentation or symptom prior to the embolic events. The only symptom that was relevant to the case was the non-specific leg pain after the long run she had a few days prior to the embolic events. This is somewhat surprising as the presence of a myxoma that size would normally cause obstructive cardiac symptoms.

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Corresponding Author: Muhammad Abdul Uloom, RMO, Department of Cardiothoracic/Vascular surgery, Auckland City Hospital, Auckland, New Zealand. Email: amin.uloom@gmail.com

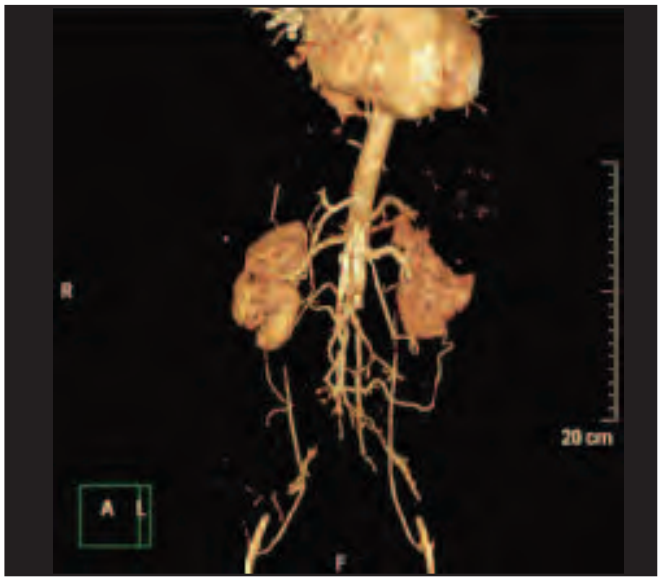

Fig. 1 : 3D-multislice CT angiogram.

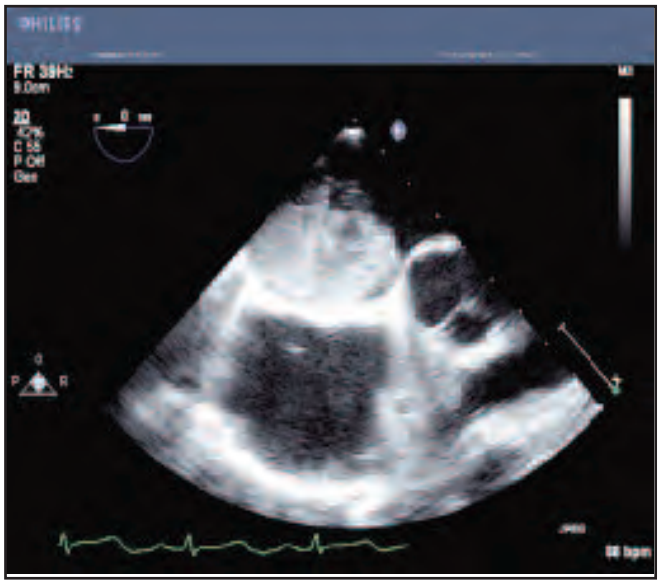

Fig. 2 : TOE of the heart showing the atrial myxoma.

A study by Elbardissi *et al* of 163 cases of atrial myxoma from 1957 to 2006 showed that there is a strong correlation between the young populations with the risk of recurrence but nil association with methods of surgical resection[3]. This was supported by Gray and Williams who also highlighted that recurrence of atrial myxoma is also more common in male despite lower prevalence compared to female. Elbardissi *et al* also highlighted a linear increase of risk for the first four years post-surgical resection and a cumulative risk of 13% by 10 years post-surgical resection. The study is relevant as the patient's presentation at the age of 21 would mean the risk of having another recurrence in the future is higher than another patient who first presented at the age of 50. This in turn implies a more aggressive follow-up especially in the first four years post-operatively. A recommended approach for this would be a semi-annual follow-up with trans-thoracic echo for four years followed by yearly follow-up afterwards[4].

CONCLUSIONS

The presentation of atrial myxoma with acute aortic occlusion is a rare occurrence with worse prognosis in the younger population.

A high degree of clinical suspicion and urgent surgical intervention are always necessary when dealing with bilateral limb ischemia with multi-organ symptomatic lesions as failure to act quickly can easily lead to extremely bleak prognosis.

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