A complex management paradigm due to an unexpected echocardiographic finding

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Clinical History

A 65 year old female presented to our facility with a constellation of symptoms including chest pain, dizziness and headache. This was on a background of hypertension managed with amlodipine 2.5mg twice daily. Clinical examination was unremarkable.

ECG showed normal sinus rhythm with no evidence of acute ischemia. Serial troponin I hS levels were however elevated (219 ng/L > 349 ng/L). Given the above findings, the patient was initially managed via the NSTEMI protocol which involved dual anti-platelet therapy with heparin infusion for 48 hours.

CT Brain was performed in light of the ongoing headache and dizziness which revealed a left cerebellar hypo density consistent with acute infarction. **See Figures 1A + 1B**. Subsequently MRI Brain was performed revealing multiple scattered focal sites of abnormal diffusion restriction predominantly in the posterior and anterior circulation with additional ischemic foci in the left cerebellar hemisphere. This was overall concerning for cardio-embolic source. **See Figures 2A + 2B.**

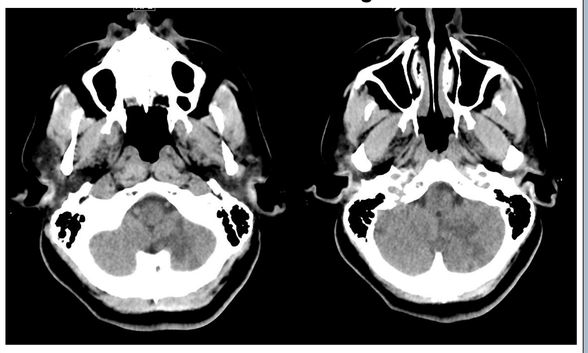

Figure 1A+ 1B: Acute left cerebellar specifically affecting the left body of caudate

The patient was appropriately transferred to the stroke unit under the care of the neurologist.

Transthoracic echocardiogram revealed a large mass in the left atrium attached to the inter-atrial septum. **See Figure 3.** Ongoing management involved cessation of dual anti-platelets and intravenous heparin infusion with a target low APTT of 40-60 in light of risk of further embolism versus risk of haemorrhagic transformation of ischemic stroke. In the interim, the patient was monitored with twice daily CT Brain scans, which were unremarkable for haemorrhagic transformation or cytotoxic oedema.

Cardiothoracic surgery was consulted for excision of the atrial myxoma. Prior to excision the patient underwent a coronary angiogram (given the troponin elevation) which revealed normal coronary arteries.

The patient successfully had excision of the atrial myxoma and patch repair of the intra-atrial septum. Findings were of a gelatinous, friable tumour measuring 35 X 25 X 15mm with histopathology consistent with atrial myxoma. The post-operative period was unremarkable and the patient was discharged home with scheduled follow-up with a cardiothoracic surgeon.

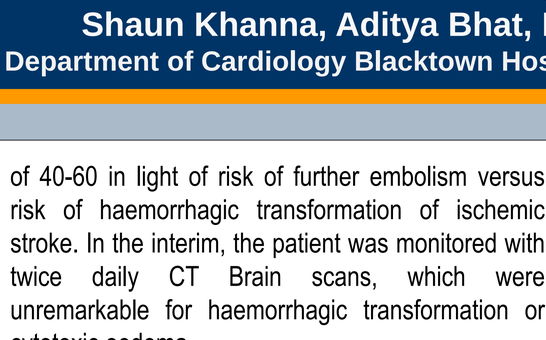

Figure 2A + 2B: Multiple scattered foci of abnormal diffusion restriction & additional foci in left cerebellar hemisphere

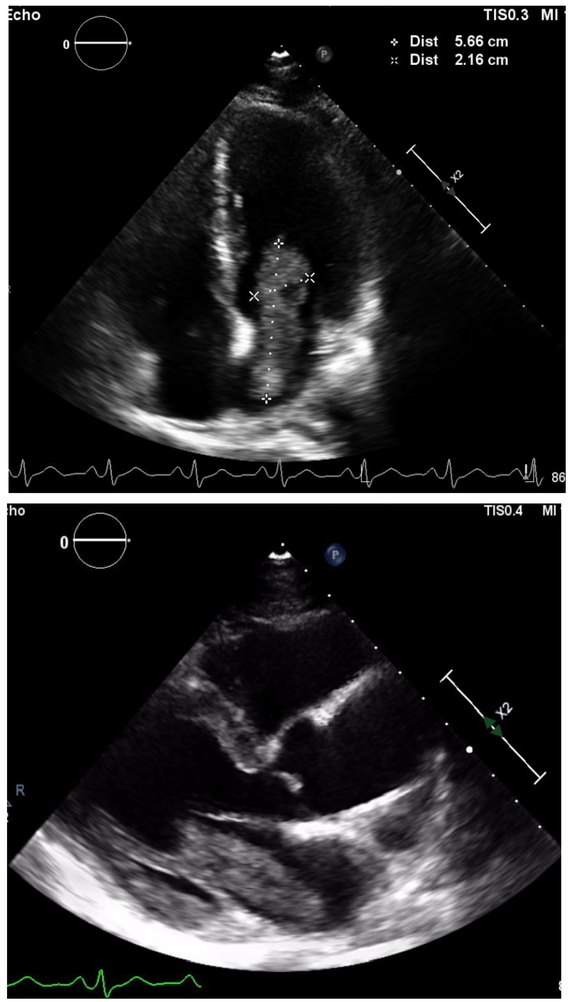

Figure 3: Large mass attached to inter-atrial septum with swing into left ventricle with right atrial extension

Discussion

The prevalence of cardiac tumours ranges from 0.001% to 0.3% with cardiac myxoma being the most common primary cardiac tumour with a 2:1 female preponderance. [1-3] Cardiac myxomas, specifically atrial origin myxomas (75%) have several presentations with the most serious being systemic embolization through tumor thrombi and rarely tumor fragments. This phenomenon is currently responsible for approximately 0.5% of strokes. [1-2] Several studies have indicated that embolic potential is based on mobility of the myxoma as opposed to its size.

The current treatment approach is somewhat a controversy. Immediate thrombolytic therapy is currently recommended to achieve a higher probability of stroke resolution, if presentation is within a timely manner. *Vogel et al* has opted for a delayed surgical approach in view of haemorrhagic transformation, in contrast to *Sethi et al* who operated emergently in a patient with systemic embolization with overall good results. [4-5] Further prospective studies are required to delineate the most appropriate management model.

Conclusion

This is an interesting case of a complex management protocol requiring careful monitoring by multiple subspecialty teams. Although the diagnosis presented elusively, the patient was appropriately treated for her embolic phenomena in the context of an atrial myxoma via medical and surgical input and in turn had a successful outcome.

References

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