ISSN: 0975-3583, 0976-2833 VOL15, ISSUE 6, 2024

THROMBOSED LEFT VENTRICLE PSEUDOANEURYSM PRESENTING WITH TESTICULAR INFARCT AND EMBOLIC STROKE

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KEYWORDS: Pseudoaneurysm, ventricle, embolism.

Abstract: This case report describes the clinical and radiological findings of a rare left ventricle pseudoaneurysm presenting with a systemic embolic phenomenon. The patient had no chest complaints but had presented with epilepsy and limb swelling. The patient also had mild testicular pain. Initial investigations which consisted of an MRI brain revealed multiple acute and chronic embolic infarcts. Scrotal ultrasound showed an infarct of testicular parenchyma. A left calcified mediastinal mass was picked up on a routine chest x-ray. Contrast CT showed a partially thrombosed pseudoaneurysm of the left ventricle. Pseudoaneurysm of the left ventricle is rare and can be fatal if not diagnosed and treated. Patients usually present with recurrent chest pain, dizziness, and breathlessness. A few affected patients with thrombosis present with embolic strokes which has been reported in literature. However, testicular infarct occurring as a complication has not been reported to our knowledge.

CLINICAL HISTORY: A 28-year-old male patient presented to OPD with recurrent seizure episodes for one year and bilateral limb swelling for one week.

INVESTIGATIONS

ECG showed T wave inversion and ST segment depression. Chest x-ray showed a left-sided mediastinal mass with peripheral calcifications. Given these findings, a Contrast CT was done.

Imaging findings

Contrast-enhanced CT showed a large lobulated pseudo aneurysm with the neck measuring around 10 mm arising from the left ventricle's lateral wall. The pseudoaneurysm contained large peripheral areas of thrombosis. The wall of the pseudoaneurysm showed discontinuous curvilinear calcifications.

Transthoracic Echocardiography showed aliasing and a typical bidirectional flow at the neck of the pseudoaneurysm. Additionally, there was moderate Mitral regurgitation and severe tricuspid regurgitation. To evaluate the cause for scrotal pain, an ultrasound was done which showed altered echotexture of the right testis with a large area showing absent vascularity, suggestive of chronic infarct of about 60 to 70 percent of testicular parenchyma. MRI Brain was also done. Multiple cortical and sub-cortical FLAIR hyperintense lesions were visualized in multiple arterial territories with few showing diffusion restriction. These findings were most likely suggestive of recent and chronic embolic infarcts.

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DISCUSSION

It was inferred that the presenting symptoms of the patient were due to multiple embolic episodes affecting the brain and testis, with the thrombosed ventricular pseudoaneurysm being the source. Left ventricular free wall rupture is rare and fatal. Pseudoaneurysm is formed when the pericardium, thrombotic material, or scar tissue contains a ventricular rupture, whereas true ventricular aneurysm includes all three layers (epicardium, myocardium, pericardium). Myocardial infarction is the most common cause. Other causes include trauma, sarcoidosis, and Chagas disease. Pseudoaneurysm has a risk of rupture even after years of formation and can lead to sudden death. Other complications include functional mitral regurgitation, aneurysmal thrombosis leading to systemic embolism, heart failure, and ventricular arrhythmia.(1) Patients may present with recurrent chest pain, dizziness, and breathlessness. Patients can also be asymptomatic. Our patient presented with embolic episodes and symptoms of heart failure.

Differential diagnoses include true ventricular aneurysm and ventricular diverticula. Echocardiography is very useful in differentiating diverticula from aneurysm. Ventricular diverticula contract with the unaffected cardiac wall.(2) True aneurysms are hypokinetic or akinetic. (2)Pseudoaneurysms show paradoxical ballooning outwards during contraction with an increase in ventricular pressure.(2) CT helps differentiate a true ventricular aneurysm from a pseudoaneurysm. This can be done by calculating the ratio between the maximum internal diameter of the orifice and, the maximum parallel internal diameter of the aneurysm. A ratio of less than 0.7 implies a narrow neck seen in pseudoaneurysm. (3) A Ratio of more than 0.7 is suggestive of true aneurysm. Active surgical management with primary closure is a highly recommended first-choice treatment. (2) Conservative treatment can be considered in asymptomatic patients with aneurysms of size less than 3 cm or in patients with high surgical risk.(2)

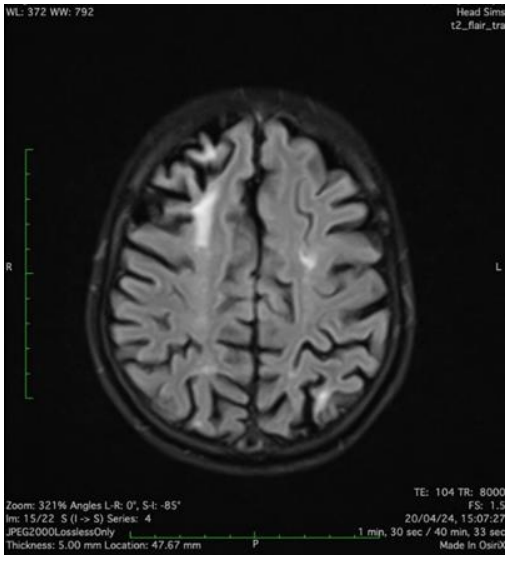

Fig 1 MRI FLAIR axial image shows multi focal hyperintensities .

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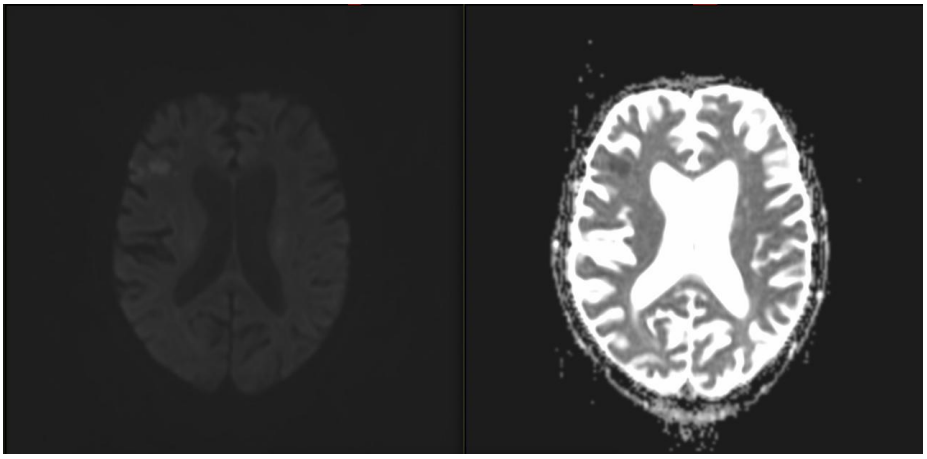


Fig 2 DWI and ADC image shows significant diffusion restriction of the lesion in right frontal sub cortical white matter

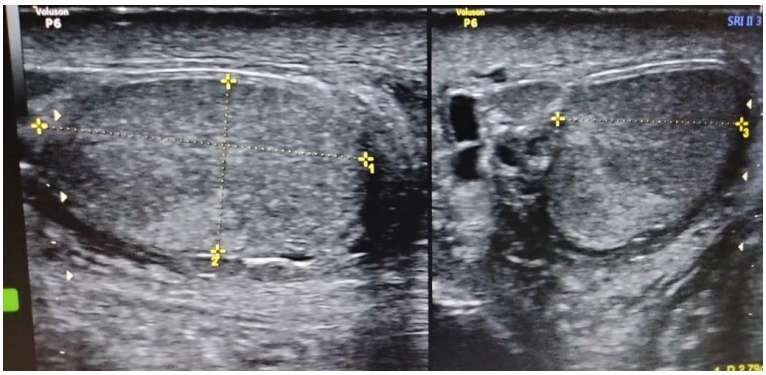
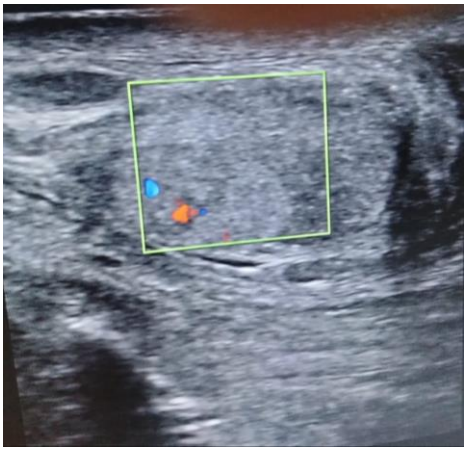


Fig 3 Ultrasound scrotum shows heterogeneous echotexture of testis.



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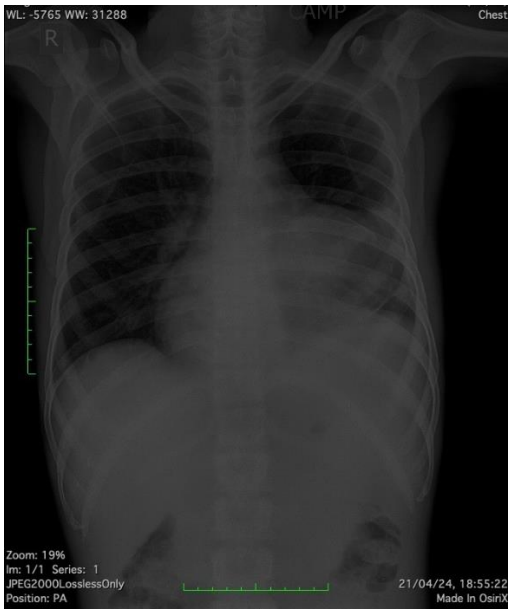
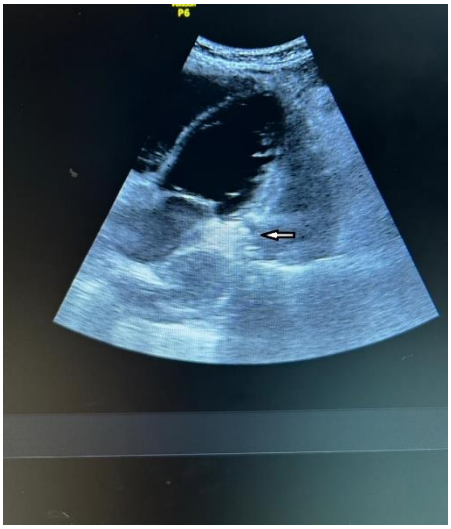


Fig 4 Color doppler over affected testis shows sparse color signal indicating decreased vascularity



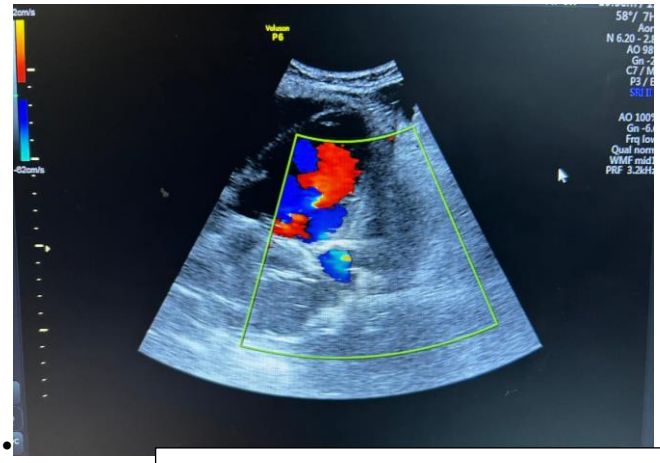


Fig 5 Chest x ray shows peripherally calcified left mediastinal mass overlapping the cardiac shadow

Fig 6 (a) Transthoracic echocardiographic image with White arrow showing the narrow orifice of pseudoaneurysm. (b) Color doppler showing aliasing due to turbulent flow in the same .

Fig 7 Contrast-enhanced CT chest showing contrast flow through the narrow neck into the pseudoaneurysm.

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Abbreviations
CT- Computed tomography

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