

A Clicking Time Bomb In The Neck - Interesting Case Of Subclavian Artery Aneurysm

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Abstract:

The subclavian artery aneurysm is a vascular condition characterized by an abnormal dilation of the subclavian artery, a major vessel supplying blood to the upper limb and part of the brain. A 58 years old male with systemic hypertension and chronic kidney disease presented with a swelling in the right side of neck which increases in size progressively and investigation revealed to be a subclavian artery aneurysm. It was then successfully managed with surgical repair with endovascular graft, in order to ensure optimal patient outcomes and minimize potential complications.

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I. Case Report:

A 58-year-old male with a prior history of systemic hypertension and chronic kidney disease (eGFR-12.9 ml/min/m²) On medical management came to the cardiac opd with complaints of a swelling in the right side of the neck that was insidious in onset and gradually increasing in size over the past four months, there was no h/o pain in the neck or right upper limb. On examination, there was a swelling in the right supraclavicular fossa of size 3 x 2 cm which was pulsatile and non-tender, all peripheral pulse were felt equally and there was no neurovascular deficit on examination. The clinical examination picture was shown. A non-contrast magnetic resonance angiogram was done since his creatinine was elevated. The MRI Picture is showed. The clinical examination of the patient was suggesting an arterial aneurysm, This was confirmed with the non contrast MRI which is showing a partially thrombosed saccular aneurysm with a size 4 x 5 x 4.6 cm and signs of potential impending rupture arising from the second part right subclavian artery very close to the dominant right vertebral artery. On planning the management strategy of the patient, being an arterial aneurysm with impending rupture the conservative line of management with wait and watch is ruled out. The aneurysm being close the Origin of the subclavian, with dominant vertebral artery and no definitive landing zone Interventional management of the aneurysm with Endovascular graft is not an option since the risk of acute arterial occlusion is a possibility. So surgical exclusion of the aneurysm with graft reconstruction is the treatment of choice. Hence, the patient underwent elective aneurysm excision and reconstruction using a 9 mm knitted polyester graft. Histopathological examination showing vessel wall with inflammation and atherosclerosis with luminal thrombus.

II. Discussion:

The subclavian artery aneurysms (SAAs) is one of the rare type of arterial aneurysm, In a study by Dent et al the occurrence of SAA is less than 0.2 % in overall collections. But in recent times the frequency of reports in literature has increased. The Subclavian artery has an intra- and an extra-thoracic part but

anatomically it may be divided into four parts. From a surgical point of view, a more practical categorisation into three parts has been suggested: a proximal, a middle and a distal part. The aetiology of an SAA is highly variable and most often because of trauma, iatrogenic, infectious like syphilitic or tuberculous origin and also atherosclerosis. Around 50% of patients presented with a pulsating mass in the shoulder, shoulder pain and non-specific chest pain. Other common symptoms are due to local compression of nearby structures embolization, thrombosis and rupture. The treatment of an SAA is largely dependent on prevention of thrombosis, embolization and rupture. The major risk of development of these complications may depend on aneurysm-related characteristics like aetiology and localisation. Nevertheless, 9% of thrombo-embolic complications occurred in proximal SAAs. The risk of embolic complications mostly unrelated to the diameter of the SAA and can also happen in small aneurysms of only 12–25 mm, which reinforces that early intervention may be indicated, especially in distal SAAs. Treatment modalities are conservative management, open surgical repair, endovascular exclusion and various hybrid techniques. Many times due to limb or even life-threatening complications, conservative treatment is not followed and hence either interventional or surgical treatment is advised.

III. Conclusion:

SAA is an extremely rare vascular disease with devastating complications. High index of clinical suspicion is needed. Management options are evolving. Early intervention in the starting predominantly in distal SAAs is preferred mainly because of risk of thrombo-embolic complications. Endovascular repair and hybrid procedures are the main preferred mode of management due to a lower rate of complications and a better clinical outcome.

Figure 1: Clinical Picture Showing A Pulsatile Mass In The Right Supravclavicular Region



Figure 2 : Partially Thrombosed Saccular Aneurysm With A Size 4 X 5 X 4.6 Cm And Signs Of Potential Impending Rupture Arising From The Second Part Right Subclavian Artery.

