

Isolated Atherosclerotic Giant Axillary Artery Aneurysm Mimicking Angiosarcoma

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Citation

V Rajarajan, T Vidyasagar, Amalorpavanathan, S Subramanian, S Robinson, Jayachandran. *Isolated Atherosclerotic Giant Axillary Artery Aneurysm Mimicking Angiosarcoma*. The Internet Journal of Surgery. 2007 Volume 16 Number 2.

Abstract

Axillary artery aneurysms are rare and almost always caused by blunt or penetrating trauma. They also occur due to thoracic outlet syndrome, repetitive trauma in crutch users or iatrogenic injury. Atherosclerosis as a cause is very rare. Only very few cases of atherosclerotic etiology of these aneurysms have been reported in the literature. These are dangerous lesions that threaten the upper extremity with vascular and neurologic complications. Most of them can be effectively treated with surgical resection and vascular grafting.

Although endovascular interventions also have been successful to treat these aneurysms, surgical resection and reconstruction has been found to be the standard treatment of choice and it should not be delayed to prevent complications.

We reported a rare case of an isolated atherosclerotic giant axillary artery aneurysm mimicking an angiosarcoma of the left axillary region which was successfully treated with surgical resection and interposition grafting with saphenous vein.

CASE REPORT

A 64-year-old lady presented to our department with the complaint of left-sided axillary painless swelling for 20 years duration. She had history of sudden pain and increase in size of the swelling for 3 months duration. She had difficulty in using the left upper limb. There was no history of trauma. She had consulted a General Surgeon who made the diagnosis of a soft-tissue sarcoma. Systemic physical examination was normal. Local examination revealed a large pulsatile, lobulated, minimally tender swelling in the left axilla measuring 15 x 10cm pushing the left breast medially. Dilated veins over the swelling were seen (Fig. 1).

Figure 1

Figure 1

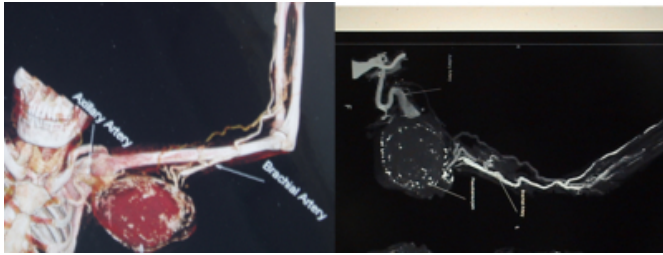


On auscultation, a bruit was heard. Left upper limb distal pulses were absent with no signs of acute limb ischemia and all other pulses normal. There was a significant pressure difference of 60mmHg in both upper limbs. She had left ulnar and median nerve sensory involvement. There was no other pulsatile swelling in the body. Investigations revealed

sac wall calcification in the chest X-ray. Ultrasonography of the abdomen was normal. Duplex scan showed a left axillary aneurysm with partial thrombus extending into the proximal brachial artery for 2cm with dampened flow in the distal brachial, radial and ulnar arteries; 64-slice CT angiography was performed and revealed a left axillary artery aneurysmal sac involving the proximal brachial artery with reformation of the mid-brachial artery (Figure 2).

Figure 2

Figure 2



The patient underwent surgery and the intra-operative findings were that the aneurysmal sac was completely adhered to the nerves and axillary vein for which endoaneurysmorrhaphy with reversed saphenous vein interposition grafting was done (Figure 3 and 4).

Figure 3

Figure 3

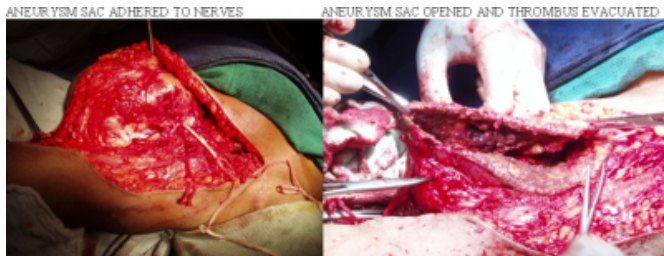


Figure 4

Figure 4



Post-operatively, the patient had normal hand grip and muscle power. Distal pulses were normally palpable.

DISCUSSION

Axillary artery aneurysms are rare and almost always occur as a result of penetrating or blunt chest trauma. They may also occur iatrogenically or as a postobstructive lesion due to thoracic outlet syndrome or to the chronic use of crutches¹. The site of aneurysmal formation varies with different etiologies. The subclavian-axillary artery junction aneurysm occurs in thoracic outlet syndrome, aneurysms in the first part of the axillary artery occur in penetrating chest trauma, in second part in crutch users and in third part during arterial punctures done for imaging studies. Atherosclerosis as a cause is very rare and can occur at any part of the axillary artery². Axillary artery aneurysms have been associated with tuberous sclerosis. It is important to recognize this entity not only for clinical diagnosis but also for appropriate surgical treatment and genetic counseling³.

In the English literature, so far only five cases of axillary artery aneurysm of atherosclerotic origin have been reported. Michalakakis and co-authors² reported one case, Szuchmacher and colleagues³ reported two cases of atherosclerotic aneurysm, one with bilateral and the other with unilateral involvement and Neumayer's group⁴ reported two cases of atherosclerotic aneurysm of the axillary artery. We report the sixth case of atherosclerotic axillary artery aneurysm being successfully managed in our center.

Axillary artery aneurysms can cause temporary or permanent neurologic defects by compressing the brachial plexus. They can cause thromboembolic complications as well. Although many vascular problems can be treated by endovascular interventions, the surgical approach is still the best choice. Aneurysmectomy and grafting with a saphenous vein is a treatment of choice for patients presenting with axillary artery aneurysms. One of the major objectives of surgery is to avoid injury to the brachial plexus, because of its proximity¹. Although prosthetic grafts are used successfully for axillary artery reconstruction, saphenous vein grafting is better for long-term patency⁶. Brachial or axillary veins can also be used for reconstruction; however, because these veins tend to develop aneurysms, saphenous veins should be the first choice when available¹.

Axillary artery aneurysms can cause vascular or neurologic complications and can mimic a large vascular tumour as in our case; they should be treated surgically and reconstructed with suitable grafts once they are diagnosed.

References

1. Tripp HF, Cook JW. Axillary artery aneurysms. *Mil Med* 1998;163:653-5.
2. Michalakos D, Lerais JM, Goffette P, Royer V, Brenot R, Kastler B. True isolated atherosclerotic aneurysm of the axillary artery [in French]. *J Radiol* 2003;84:1016-9.
3. Szuchmacher PH, Freed JS. Axillary aneurysms. *N Y State J Med* 1980;80:795-6.
4. Neumayer LA, Bull DA, Hunter GC, McIntyre KE, Yoshino MT, Aguirre ML, Bernhard VM. Atherosclerotic aneurysms of the axillary artery. A report of two cases and a review of the literature. *J Cardiovasc Surg (Torino)* 1992;33:172-7.
5. Hite SH, Kuo JS, Cheng EY. Axillary artery aneurysm in tuberous sclerosis: cross-sectional imaging findings. *Pediatr Radiol* 1998;28:554-6.
6. McCarthy WJ, Flinn WR, Yao JS, Williams LR, Bergan JJ. Result of bypass grafting for upper limb ischemia. *J Vasc Surg* 1986;3:741-6.

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