

Case Blog

Title: Post Stab Injury Subclavin Artery Pseudoaneurysm Excision

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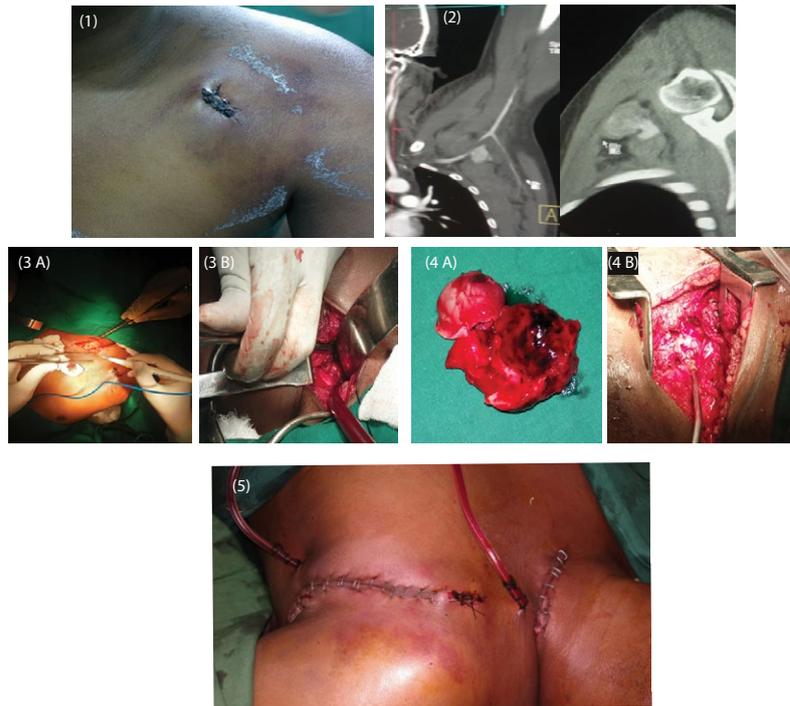


Figure 1: Stab wound in supraclavicular region already sewn at local hospital.

Figure 2: CT angiography showing subclavin artery pseudoaneurysm with two openings in subclavin artery anterior and posterior.

Figure 3: A) Supraclavicular incision to expose proximal subclavin artery B) Exposed subclavin artery.

Figure 4: A) Excised pseudoaneurysm B) Opening in subclavin artery closed with vein patch.

Figure 5: Closed tranaxillary and supraclavicular surgical incision with negative suction drain in situ.

Abstract

A pseudoaneurysm, also known as a false aneurysm, is a hematoma that forms as a result of a leaking hole in artery. Hematoma was contained by the surrounding tissues. Also it must continue to communicate with the artery to be considered a pseudoaneurysm. Post stab injury subclavin artery pseudoaneurysm is rare entity with great significance because of risk of complications like thrombosis, rupture, gangrene, limb loss and should be operated early whenever diagnosed. Our case report has 24 year male patient with history of stab injury to left supraclavicular region followed by pulsatile swelling after two days due to subclavin artery pseudoaneurysm. We excised pseudoaneurysm with vein patch closure of opening in subclavin artery.

Introduction

According to the literature data, post traumatic pseudoaneurysm is rare entity [1]. Most common site is common femoral artery, followed by radial and brachial artery but subclavin artery is very rare because trauma to it is rare. Incidence of complications associated with such pseudoaneurysm is estimated around 2-6% [2]. We present a case of the patient in whom pseudoaneurysm of left subclavin artery developed after two days of stab injury by pointed object and was successfully treated by surgical excision and vein patch closure of opening in subclavin artery.

Case Report

A 24 -years-old male patient was admitted at our Institute with history of stab injury to left supraclavicular region lateral side

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that was closed at local hospital (Figure 1). After two days the patient noticed gradually increasing pulsatile swelling at closed stab injury site. Clinical examination revealed presence of pulsating mass at stab injury site of 10 by 10 cm in diameter. Left brachial, radial and ulnar artery pulsations are palpable. Ultrasonography and CT angiography verified presence of pseudoaneurysm connected by two opening in third part of left subclavin artery (10 cm in diameter) (Figure 2).

After short preoperative preparation, the patient underwent surgical intervention under general anaesthesia. Left supraclavicular incision taken to access and loop the proximal subclavin artery (Figure 3A and 3B). Left side transaxillary incision taken to access and loop the axillary artery. Intravenous heparin (5000 IU) was administered. Proximal subclavin artery and axillary artery both clamped. Dissection and separation of pseudoaneurysm followed by excision was done with cautery along with its content the clotted blood (Figure 4A and 4B). The opening of pseudoaneurysm in left subclavin artery was closed with vein patch with prolene 6-0. The vein patch was prepared from small axillary vein tributary. After putting 14 number negative suction romovac drain n supraclavicular and axillary region, wound closed in layer (Figure 5). Skin closed with stappler. Radial and ulnar artery pulsation checked. Drain removed after 48 hours. On the tenth postoperative day the patient was discharged.

Discussion

Post traumatic pseudoaneurysm is rare. The most common cause for such pseudoaneurysm is itragenic like post av fistula dialysis needle puncture or invasive procedures like percutaneous coronary interventions. Most common site for such pseudoaneurysm is radial, brachial and common femoral artery. Post stab injury pseudoaneurysm is rare in that subclavin artery pseudoaneurysm was rarest. If such pseudoaneurysm became infected, the surgical treatment can be extremely difficult. Although recently published, meta-analyses showed no superiority of subclavin artery stenting in such pseudoaneurysm because even after closing the opening which connect subclavin artery with pseudoaneurysm, the already formed pseudoaneurysm is high risk of infection [3,4]. So excision of that pseudoaneurysm is must. If the subclavin artery is normal with clearly visible opening that connect with pseudoaneurysm then pseudoaneurysm can be excised without sacrificing the part of subclavin artery by just vein patch closure of that opening with prolene suture. Sometimes rarely excision of part of subclavin artery with interposition grafting may be required.

Conclusion

The pseudo aneurysm excision was simple and safe even in inexperienced hands by proper anatomical knowledge. Proximal and distal control of artery is must for safe excision of pseudoaneurysm. By proper anatomical dissection pseudo aneurysm can be excised without damaging the surrounding vital structure like brachial plexus and axillary vein. Timely management was important to prevent complications like infection, rupture and gangrene. If the subclavin artery is normal with clearly visible opening feeding pseudoaneurysm then pseudoaneurysm can be excised without sacrificing the part of subclavin artery by just vein patch closure of opening in subclavin artery with prolene. Sometimes rarely excision of part of subclavin artery with interposition grafting may be required.

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