

Post Stab Injury Subclavin Artery Pseudoaneurysm Excision

Dr.Suraj Wasudeo Nagre^{1*}, Dr. KN Bhosle² and Dr.Ambrish Khatod³

¹Assistant Professor,CVTS, Grant Medical College, Mumbai, India

²Professor and Head of Department,C.V.T.S, Grant Medical College,Mumbai, India

³Senior Resident, Second Year C.V.T.S, Grant Medical College, Mumbai, India

***Corresponding Author:** Dr.SurajWasudeoNagre, Assistant Professor,CVTS, Grant Medical College, Mumbai, India; Tel: 9967795303; E-mail: surajnagre@yahoo.com

Citation: Dr.Suraj Wasudeo Nagre, Dr.KN Bhosle and Dr. Ambrish Khatod (2016) Post Stab Injury Subclavin Artery Pseudoaneurysm Excision. Ann SurgInt 2: 009.

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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.

Keywords: Pseudoaneurysm; Stab injury; Subclavin artery; Pulsatile swelling.

Introduction

According to the literature data, post traumatic pseudoaneurysm is rare entity [1]. Most common sites are 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-year-old male patient was admitted at our Institute with history of stab injury to left supraclavicular region lateral side 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 openings in third part of left subclavicular 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 subclavicular artery [Figures 3A,3B]. Left side trans axillary incision taken to access and loop the axillary artery. Intravenous heparin (5000 IU) was administered. Proximal subclavicular 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,4B]. The opening of pseudoaneurysm in left subclavicular artery was closed with vein patch with prolene 6-0. The vein patch was prepared from small axillary vein tributary. After putting 14 numbers negative suction romovac drain in supraclavicular and axillary region, wound closed in layer [Figure 5]. Skin closed with stapler. Radial and ulnar artery pulsation checked. Drain removed after 48 hours. On the tenth postoperative day the patient was discharged.



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

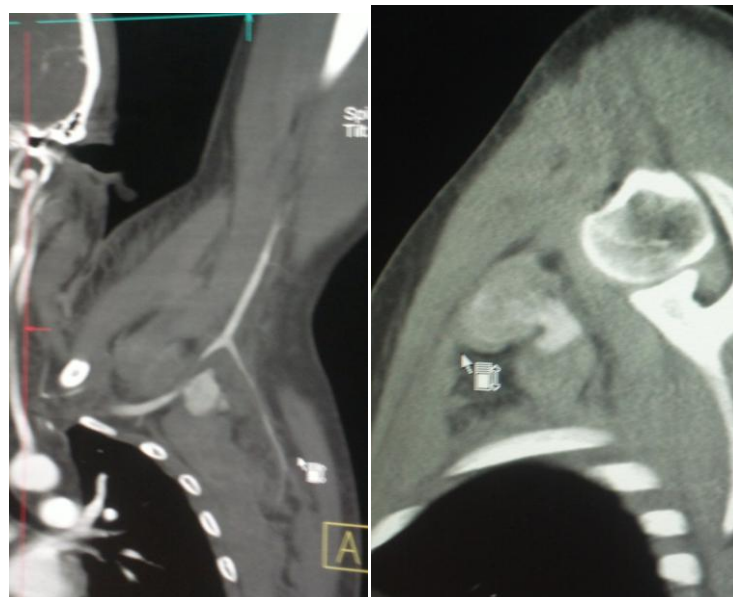


Figure 2: CT angiography showing subclavicular pseudoaneurysm with two openings in subclavicular artery anterior and posterior.

[A]

[B]

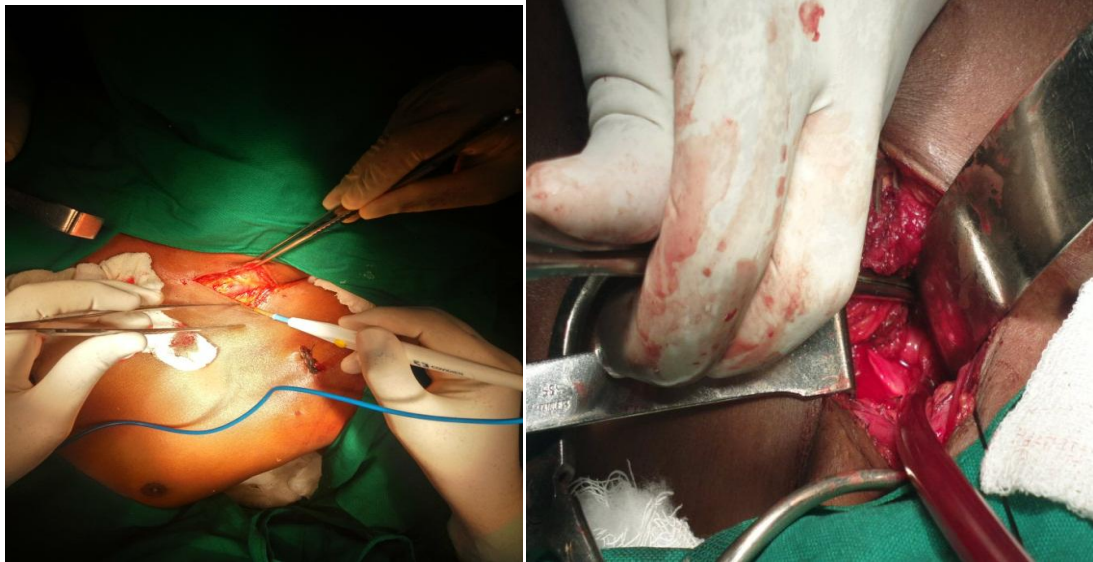


Figure 3: [A] Supraclavicular incision to expose proximal subclavian artery [B] Exposed subclavian artery

[A]

[B]

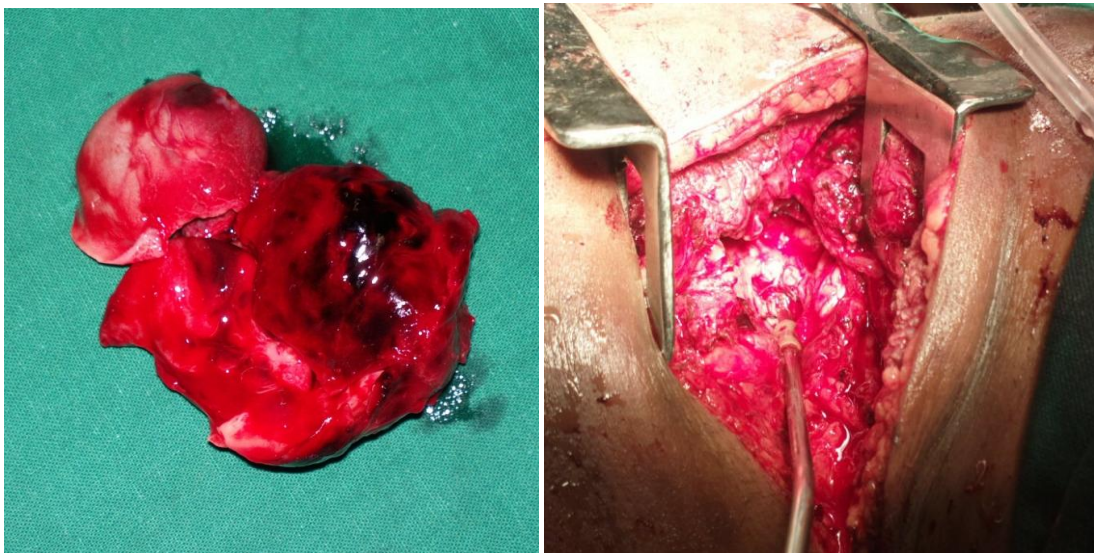


Figure 4: [A] Excised pseudoaneurysm [B] Opening in subclavian artery closed with vein patch



Figure 5: Closed trans axillary and supraclavicular surgical incision with negative suction drain in situ

Discussion

Post traumatic pseudoaneurysms are rare. The most common cause for such pseudoaneurysms is intragenic like post-arteriovenous fistula dialysis needle puncture or invasive procedures like percutaneous coronary interventions. Most common site for such pseudoaneurysms is radial, brachial and common femoral artery. Post-traumatic pseudoaneurysm is rare in that subclavian artery pseudoaneurysm was rare. If such pseudoaneurysm became infected, the surgical treatment can be extremely difficult.

Although recently published, meta-analyses showed no superiority of subclavian artery stenting in such pseudoaneurysm because even after closing the opening which connects subclavian artery with pseudoaneurysm, the already formed pseudoaneurysm is at high risk of infection [3, 4]. So excision of that pseudoaneurysm is a must. If the subclavian artery is normal with a clearly visible opening that connects with pseudoaneurysm then pseudoaneurysm can be excised without sacrificing the part of subclavian artery by

just vein patch closure of that opening with prolene suture. Sometimes rarely excision of part of subclavian artery with interposition grafting may be required.

Conclusion

The pseudoaneurysm excision was simple and safe even in inexperienced hands by proper anatomical knowledge. Proximal and distal control of artery is a must for safe excision of pseudoaneurysm. By proper anatomical dissection pseudoaneurysm 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 subclavian artery is normal with a clearly visible opening feeding pseudoaneurysm then pseudoaneurysm can be excised without sacrificing the part of subclavian artery by just vein patch closure of opening in subclavian artery with prolene. Sometimes rarely excision of part of subclavian artery with interposition grafting may be required.

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