

**Case Report**

Basilic vein aneurysm mimicking as arterio venous malformation

Bhartiya SK¹, Bhattacharya SK¹, Basu S¹, Srivastava A², Shukla VK^{1*}

¹Department of General Surgery, ²Department of Radiodiagnosis
Institute of Medical Sciences, Banaras Hindu University, Varanasi, India

*Corresponding author email: vkshuklabhu@gmail.com

How to cite this article: Bhartiya SK, Bhattacharya SK, Basu S, Srivastava A, Shukla VK. Basilic vein aneurysm mimicking as arterio venous malformation. IAIM, 2015; 2(5): 160-163.

Available online at www.iaimjournal.com

Received on: 08-04-2015

Accepted on: 28-04-2015

Abstract

Venous aneurysm is saccular or fusiform dilatation of vein, usually congenital origin. Among acquired variety post intravenous cannulation leading to venous aneurysm is extremely rare entity. Non invasive diagnostic procedure MRI and duplex scanning are very useful modality for anatomical localization of the aneurysm. Although an ascending venogram is an invasive test and should take a backseat for diagnosis of such aneurysm. Symptomatic case needs surgical management. Anatomical delineation is an important pre requisite for planning surgery. Aneurysmorrhaphy preserves the affected venous segment because it does not produce luminal compromise.

Key words

Venous aneurysm, Post intravenous cannulation, Aneurysmorrhaphy.

Introduction

Venous aneurysm is a focal saccular or fusiform dilatation of vein. It has the entire vascular layer, as contained in true aneurysm [1]. Venous aneurysm is an extremely rare entity following commonly performed medical procedure as intravenous cannulation. It is because of low intraluminal pressure leading to endophlebohypertrophy and endophleboscrosis [1]. We have reported a rare case of lateral aneurysm of right basilic vein in the right cubital fossa. It is a first case of

basilic vein aneurysm managed by aneurysmorrhaphy.

Case report

A fifty-year-old man presented with complaints of a painless, slowly progressive swelling in the right cubital fossa for four and half years. He gave a history of intravenous cannulation at the same site five year back for treatment of acute gastroenteritis. Six months later he noticed a small painless swelling at the site of cannulation, gradually progressive to attain present size

leading to constant dull ache. He denied the history of other trauma or intake of anticoagulative medication. Physical examination revealed a 4x3 cm, well defined smooth swelling in the right cubital fossa, with overlying stretched shiny skin. The swelling was soft, non-tender, and compressible. **(Figure - 1)** It was non-pulsatile and no bruit was heard. All the pulses in the upper extremity were normally palpable and no neurological deficit was noticed. Hematological, biochemical and coagulation profiles were normal. A color doppler examination of the swelling showed a lateral aneurysm arising from a deep vein, which was confirmed on an ascending venogram to be arising from the basilic vein. **(Figure - 2)**

Figure - 1: Clinical photograph revealed 4x3 cm size of well defined, soft, non tender, swelling in right cubital fossa.



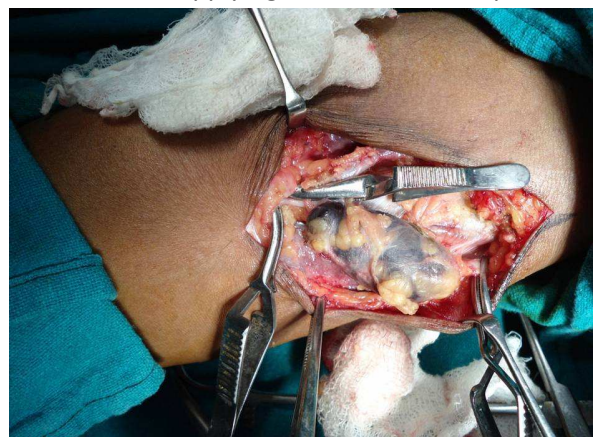
The aneurysm was explored by a lazy 'S' longitudinal incision made across the ventral aspect of elbow joint. Skin flaps were raised on either side. The right basilic vein was dissected free proximal and distal to the aneurysm and the aneurysm was isolated from all sides. The neck of the aneurysm was isolated in continuity with basilic vein. Vascular clamps were applied on either side of the aneurysm. The sac was excised and the lateral venous wall was repaired **(Figure - 3A, 3B, 3C)** with a continuous 6-0 polypropylene suture. Following release of the

vascular clamps the venous flow was checked across the repair and hemostasis was achieved. The wound was closed in layers and a dressing was applied. The postoperative period was uneventful. Three weeks following surgery, a color doppler examination was requested, which revealed normal flow in the right basilic vein. The histopathological examination of the excised specimen confirmed it as venous aneurysm.

Figure - 2: Ascending venography revealed the venous aneurysm arising from basilic vein.



Figure - 3A: Peroperative photograph of excision of lesion after applying the vascular clamp.



Discussion

Venous aneurysm is described as localized segmental dilatation of veins either in continuity or as a lateral projection. It can be congenital or acquired. Although the real incidence and

etiology are unknown, it has been postulated that such dilatation may occur as a result of localized embryonal mural weakness due to focal defect in elastin or muscle fiber or minor trauma [1, 2]. Trauma following cannulation with a large bore needle may lead to such weakness. Complications such as thrombosis, embolism, spontaneous rupture, hemorrhage and compression of adjacent structures may occur [3]. Two cases had been reported in literature involving such location [4]. Aneurysm of the basilic vein following intravenous cannulation is extremely rare because of low intraluminal pressure.

Figure - 3B: Photograph showing excise specimen vasilic vein aneurysm.

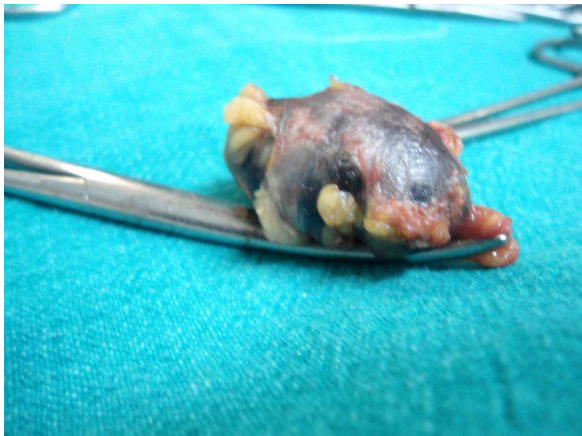
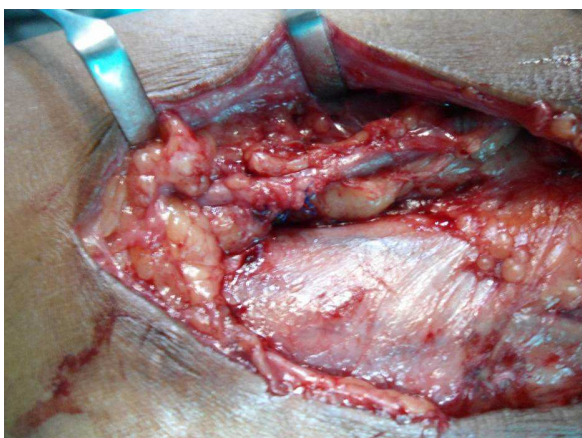


Figure - 3C: Photograph showing aneurysmorrhaphy after excision of lesions.



The cases are usually asymptomatic needs no treatment. Symptomatic venous aneurysms need surgical management [5]. A number of surgical options are available such as aneurysm excision with ligation of the vein, aneurysm resection with end to end venous anastomosis, aneurysmorrhaphy, and resection with interposition vein graft [3]. Previous reports indicate that excision of the aneurysm and ligation of the vein is a common practice for venous aneurysms [3]. However, excision with aneurysmorrhaphy was done in the present case because the lesion was arising from the lateral wall of a prominent basilic vein and following resection the lateral defect in the venous wall could be repaired without compromising the lumen and blood flow.

Conclusion

In conclusion, we highlight the fact that a common procedure like a deep intravenous cannulation may give rise to a complicated lesion like a venous aneurysm, which is fortunately rare. If the lesion is not suspected, a diagnostic procedure such as needle biopsy may precipitate serious hemorrhage or a sclerotherapy for suspecting it as hemangioma or lymphangioma may prove disastrous. Awareness of this complication can prevent such interventions. Another concern is that whether such a rare complication should be mentioned routinely while obtaining consent for intravenous cannulation for therapeutic procedure. Imaging investigations such as a duplex scan or MRI scan is necessary to differentiate it from other more common lesions and to accurately define the pathology prior to any intervention. Anatomical delineation is an important pre requisite for planning surgery. Aneurysmorrhaphy preserves the affected venous segment provided it does not produce luminal compromise. Since the condition is rare, clinical awareness is important for its successful management.



References

1. Schatz IJ, Fine G. Venous aneurysms. *N Engl J Med*, 1962; 266: 1310-1312.
2. Dahl JR, Freed TA, Burke MF. Popliteal vein aneurysm with recurrent pulmonary thromboemboli. *JAMA*, 1976; 236: 2531-2532.
3. Debasish D, Stuart W, Evangelia M, Fiona M. Aneurysm of antecubital vein: An unusual complication of peripheral intravenous cannulation. *BMC Surgery*, 2007; 7: 9.
4. Ward WH, Platz TA, Pond KT, Southern FA, Moore EM. Iatrogenic venous pseudoaneurysm: Case report and review of the literature. *Vascular*, 2009, 17(6): 355-358.
5. Sessa C, Nicolini P, Perrin M, Farah I, Magne J, Guidicelli H. Management of symptomatic and asymptomatic popliteal venous aneurysms: A retrospective analysis of 25 patients and review of the literature. *J Vasc Surg*, 2000; 32: 902-911.

Source of support: Nil

Conflict of interest: None declared.