

SUCCESSFUL MANAGEMENT OF TRAUMATIC FALSE ANEURYSM OF THE EXTRACRANIAL VERTEBRAL ARTERY : A Case Report

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Background

The vertebral arteries (VA) are paired arteries, each arising from the respective subclavian artery and ascending in the neck to supply the posterior fossa and occipital lobes, as well as provide segmental vertebral and spinal column blood supply. The vertebral artery is typically divided into 4 segments:

V1: pre-foraminal segment (origin to the transverse foramen of C6)

V2: foraminal segment (from the transverse foramen of C6 to the transverse foramen of C2)

V3: atlantic, extradural or extraspinal segment (starts from C2 continues through C1 to pierce the dura)

V4: intradural or intracranial segment

Pseudoaneurysms of the extracranial vertebral artery are extremely rare due to their deep location and the anatomical protection of this artery. They can be caused by cervical traumas (firearm injuries, sports, hyperextension of the neck and iatrogeny). Treatment depends on the severity of the injury and whether it's accessible (Open surgery vs Endovascular intervention)

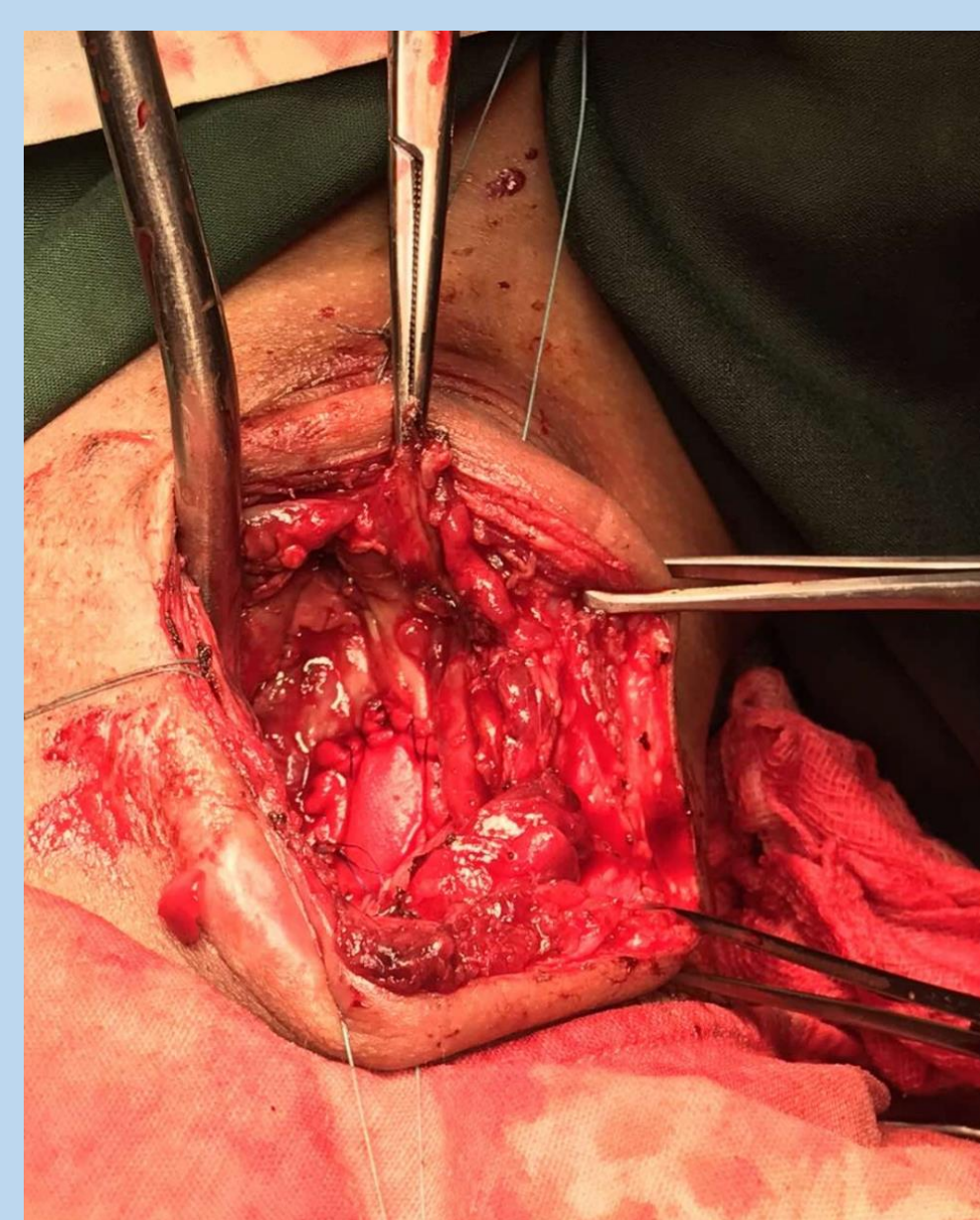
Case Report

A 12-year-old girl came from Indawgyi, Kachin State was referred to YKCH for pulsating mass, 8cm in diameter in the right lateral neck triangle after slip and fall on a broken vase. The wound was stitched by local doctor and mass appeared after this. She was referred to us for further management.



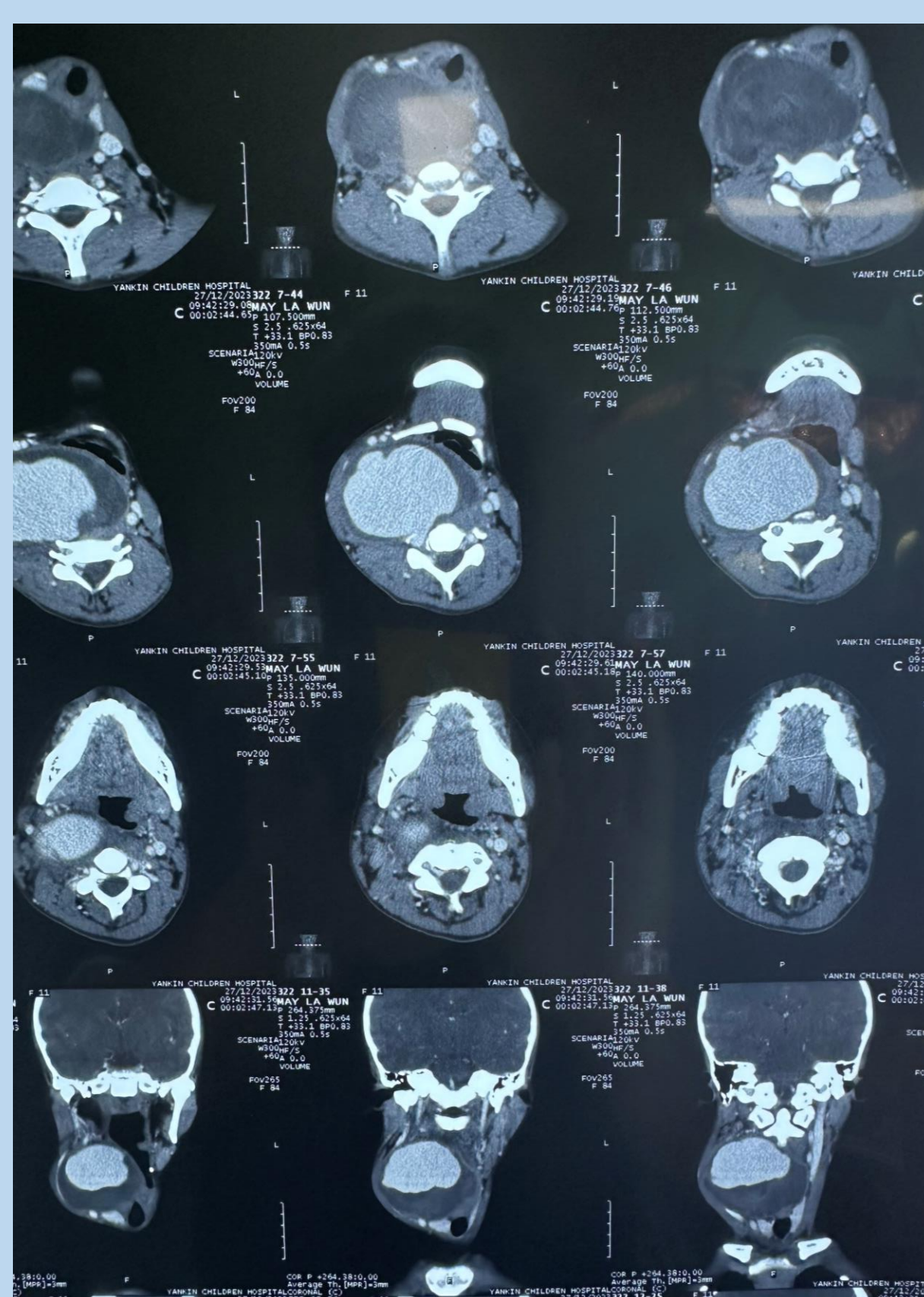
Procedure

Via the Rt collar incision, the false aneurysm sac was incised. Arterial tear was 1cm x 0.7cm x 0.7cm at the level of C5 to C6. Mural thrombus was removed followed by **angioplasty using dacron patch** with running 7/0 prolene suture.



Angiography before the procedure showed aneurysmal dilatation of the right vertebral artery (8 cm in length and 7.8 cm in diameter) from C2 to C5 vertebral level, preforamina and foramina parts of right vertebral artery i.e. V2 segment of right vertebral artery.

Procedure was uneventful and recheck doppler USG showed no turbulence in repaired region. Drain was on 2nd postop day and patient was discharged on 7th day.



Discussion

A vertebral artery pseudoaneurysm is a rare vascular lesion. Major trauma such as gunshot or stab wounds is the most common cause. It can also be caused by minor injuries, or by iatrogenic factors such as spinal surgery, chiropractic manipulation or cardiac pacemaker placement.

Subsequent formation of a VA pseudoaneurysm at the site of injury places the patient at risk for future emergent complications such as aneurysmal rupture. Other possible complications are vessel occlusion and distal thromboembolism.

Treatment depends on severity and accessibility of lesion. One of which was to perform endovascular occlusion proximally and distally. Another was to use a combined endovascular/surgical approach (retrograde balloon insertion preoperatively in the right brachial artery to occlude the right subclavian artery, along with surgical exposure through a neck incision). A 3rd option was to use a solely surgical approach. **Surgical approach is probably best applied in patients who have large aneurysms with arteriovenous fistula.**

Conclusion

Pseudoaneurysm of vertebral artery is rare but emergency condition and open surgery is treatment of choice for large aneurysm.

Further information

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