



## Bilateral variation in the origin of suprascapular artery

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### Abstract

Suprascapular artery which is usually a branch of thyrocervical trunk, in the present case arose from the first part of the axillary artery, on both sides. It then it passed obliquely behind the clavicle and then between the trunks of brachial plexus to reach the suprascapular notch, where it was accompanied by the suprascapular nerve and both together passed beneath the transverse scapular ligament and took part in the anastomosis around the scapula.

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**Key words** [suprascapular artery] [axillary artery] [subclavian artery]

### Introduction

Suprascapular artery (SSA), a branch of thyrocervical trunk, which in turn is a branch of subclavian artery, usually passes laterally across the anterior scalene muscle, phrenic nerve, posterior to the internal jugular vein and sternocleidomastoid, then crosses anterior to the brachial plexus and subclavian artery [1]. On reaching the superior border of scapula it passes above the transverse scapular ligament, while the nerve passes below the ligament [1]. Variations in the origin of branches of subclavian artery and thyrocervical trunk have been reported by many researchers [2–6]. In the present case a bilateral variation in origin of SSA was found.

### Case Report

The bilateral origin of the SSA from the first part of the axillary artery was observed during routine dissection of a nearly 65-year-old male cadaver. SSA on both sides ascended for about 1 cm above the medial third of clavicle and then passed obliquely behind the clavicle, it then passed between the trunks of the brachial plexus to reach the suprascapular notch where it was accompanied by the suprascapular nerve. Both the artery and nerve passed together beneath the transverse scapular ligament. Further the arteries on both

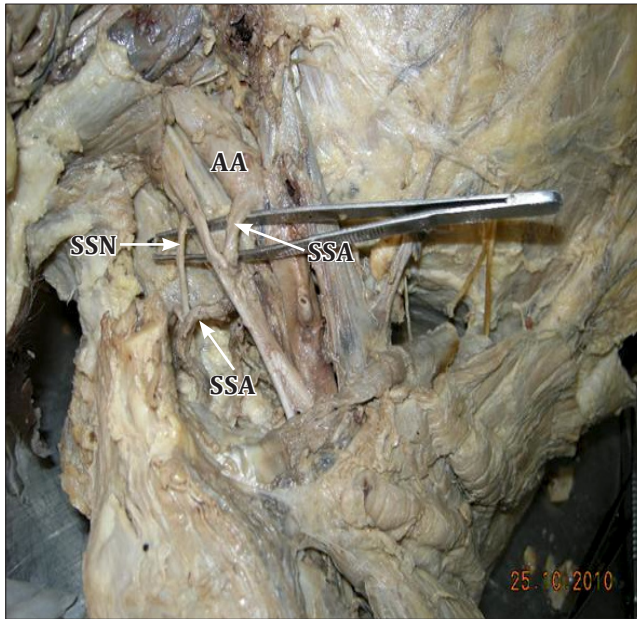
sides traversed the supraspinous and infraspinous fossae, passing through the spinoglenoid notch to participate in scapular anastomosis.

### Discussion

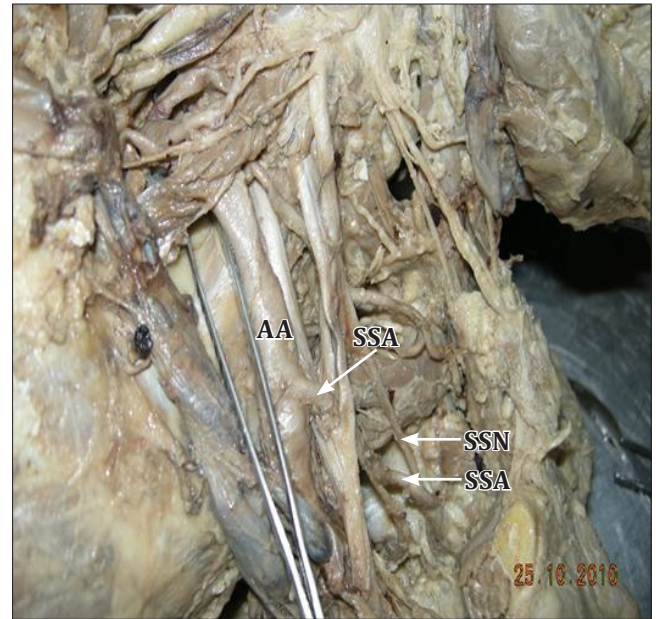
Variations in the origin of SSA have been described by earlier researchers [2–6]. The passage of both the nerve and the artery below the transverse scapular ligament is also reported in numerous cases [2, 3]. The origin of SSA on the left side from the first part of axillary artery is rare and was reported in one of the cases studied by Misra and Ajmani [2]. Mahato reported a bilateral variation of SSA, where the SSA arose from the third part of axillary artery [3]. However, the bilateral origin of the suprascapular arteries from the first part of the axillary artery makes this case unique and interesting. SSA arising from the third part of subclavian artery has been reported earlier in 22% [4] and 28% [5] cases. SSA arising from internal thoracic has been reported earlier in 10% [4] and 5% [5] cases.

### Conclusion

The variation in the origin of the SSA is important, as damage to this artery can lead to microemboli in the vasa nervosum



**Figure 1.** Photograph showing the right suprascapular artery arising from the first part of the axillary artery (*SSA*: suprascapular artery; *AA*: axillary artery; *SSN*: suprascapular nerve)



**Figure 2.** Photograph showing the left suprascapular artery arising from the first part of the axillary artery (*SSA*: suprascapular artery; *AA*: axillary artery; *SSN*: suprascapular nerve)

of the suprascapular nerve, which may lead to suprascapular neuropathy [6]. SSA has a major contribution in blood supply to the tendinous rotator cuff of shoulder joint, chiefly to the supraspinatus muscle [7]. Hence understanding the origin

and branching pattern of SSA would help in the management of diseases of cervical and shoulder region that could be due to vascular origin.

## References

- [1] Gray H, Carter HV. Pectoral girdle, shoulder region and axilla. In: Standring S, ed. *Gray's Anatomy. The Anatomical Basis of Clinical Practice*. 39th Ed., Churchill Livingstone, Elsevier, 2000; 841.
- [2] Mishra S, Ajmani ML. Anomalous origin of suprascapular artery—a case report. *J Anat Soc India*. 2003; 52: 180–182.
- [3] Mahato NK. Bilateral anomalous suprascapular arteries. *Eur J Anat*. 2010; 14: 31–34.
- [4] Bean RB. A complete study of the subclavian artery in man. *Am J Anat*. 1905; 4:303.
- [5] Reed WT, Trotter M. The origins of the transverse cervical and of transverse scapular arteries in American Whites and Negroes. *Am J Phys Anthropol*. 1941; 28: 229.
- [6] Ringel SP, Treihaf M, Carry M, Fisher R, Jascobe P. Suprascapular neuropathy in pitchers. *Am J Sports Med*. 1990; 18: 80–86.
- [7] Determe D, Rongières M, Kany J, Glasson JM, Bellumore Y, Mansat M, Becue J. Anatomic study of the tendinous rotator cuff of the shoulder. *Surg Radiol Anat*. 1996; 18: 195–200.