

Abstract (600 word limits)

Delineation of Vascular Anatomy of Head & Neck Region by Silicon Injection: A Novel Tool for Cadaver based Surgical Training

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INTRODUCTION: Cadaver based teaching of human anatomy has been the gold standard in surgical teaching and is the basis of various cadaver dissection workshops organized around the world. Injection of various materials like latex, silicone, acrylic paint, gelatin etc have been used worldwide to facilitate anatomical dissections in fresh frozen cadavers.

Materials: We used freshly prepared silicon-based dyes in head & neck region of 5 fresh frozen cadavers. In the neck, bilateral common carotid arteries (CCA) and internal jugular veins (IJV) were cannulated and normal saline was perfused to clear out the blood clots and then was perfused with soft embalming fluid. After embalming, with the help of feeding tubes no. 10 and 50 cc syringes, red and blue colored dyes were infused in already cannulated bilateral CCA and IJV, respectively. The processed cadavers were then utilized for dissection courses to delineate the vessels and layered anatomy of the face. One day prior to the planned workshop, half-face layered dissection was done by experienced faculty for demonstration and the next day was utilized for hands-on training of the delegates.

Results: All the 5 processed cadavers revealed excellent vascular anatomy of the face and scalp region with visualization of vessels till the midline. If the dye's viscosity was decreased, the dye passed through the arterial system and was observed in the venous system. However, increasing the viscosity made it difficult to push into the artery by syringe.

Conclusion: Silicon-based dye injection is an excellent tool for delineating vascular anatomy for head & neck region soft tissue dissection in cadavers that can be used for advanced surgical training by adding contrast to the tissue. However, in addition to the requisite infrastructure and soft embalmed fresh frozen cadavers, it requires excellent coordination with the Anatomy Department for dye preparation and cadaver embalming.

Biography (200 word limit)

Dr. Shashank Chauhan has completed his MBBS from the All India Institute of Medical Sciences (AIIMS), New Delhi in 2006. After that, he did his General Surgery residency (MS General Surgery) from Aligarh Muslim University and then the Plastic Surgery residency (MCh Plastic & Reconstructive Surgery) from VMMC & Safdarjung Hospital, New Delhi, the largest burns unit in Asia. He is currently working as Assistant Professor in the Department of Plastic, Reconstructive & Burns Surgery at the All India Institute of Medical Sciences, New Delhi, India. He has received international travel grant from the Indian Council of Medical Research (ICMR) and has published many articles in reputed journals.

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