



The Importance of Preoperative Allen's Testing in Radial Forearm Free Flap Reconstruction in the Head and Neck

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Free tissue; Free flap; Allen's test; Pre-operative; Radial forearm

Clinical Image

Figure 1 shows Computed Tomographic Angiography (CTA) of the upper extremities of a 52-year-old woman considered for left Radial Forearm Free Flap (RFFF) for reconstruction of the tongue after hemi-glossectomy. This study showed lack of ulnar artery flow beyond the bifurcation of the brachial artery and a normal left radial artery without evidence of prior fracture. She had a history of a left distal radius fracture one year prior. Allen's test prior to CTA was positive. By convention, a positive Allen's test indicates occlusive disease of the ulnar circulation and a negative test indicates no occlusion [1]. She was taken for a right RFFF without complication.

Vascular complications after a fracture of the distal radius are exceedingly rare [2]. We report an isolated distal radius fracture which may have led to complete, asymptomatic, untreated occlusion of the ulnar artery discovered in a patient on pre-operative evaluation for a radial forearm free tissue transfer. A thorough history and physical exam, as well as Allen's testing is imperative prior to harvesting a radial forearm free flap for reconstruction of head and neck defects. If Allen's testing is positive, upper extremity angiography can be considered to confirm any concerning findings.

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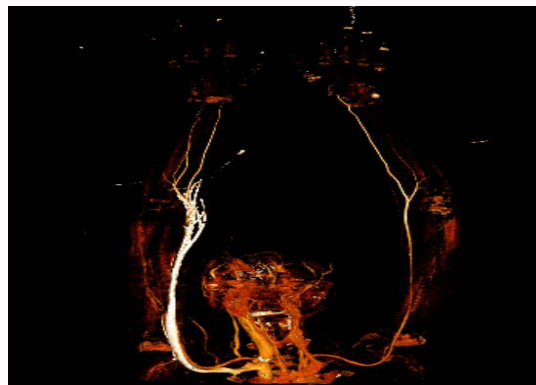


Figure 1: Three-Dimensional Reconstruction of the CT Angiography showing early diminution and terminus of the left ulnar artery with the right ulnar artery intact.

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