Incidentaloma at Radial Artery Forearm Free Flap Harvest: An Occult Volar Wrist Ganglion

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Abstract Occult volar wrist ganglion originating from radioscapoid interval and having adherence to flexor carpi radialis tendon [Fcr] and radial artery is an uncommon occurrence. We report such a case which was occult and asymptomatic during pre-operative assessment and presented as an incidentaloma during radial artery forearm free flap harvest for oral cancer reconstruction.

Keywords Occult wrist ganglion · Volar wrist ganglion · Radial artery forearm free flap · Incidentaloma · Oral cancer reconstruction

Introduction

Volar wrist ganglions are uncommon when compared to dorsal wrist ganglions. They are noted for their occult presence causing vague symptoms and poor response to nonsurgical management. Incidentaloma are asymptomatic and undiagnosed lesions which are accidentally found during investigations or interventions for other unrelated conditions.

The free radial artery forearm flap [FRAFF] is a pliable soft tissue flap and is widely used for reconstruction after intra oral cancer excision. During FRAFF harvest, a variety of anatomical variations of the forearm vessels are reported.

We present a case of FRAFF in which the radial artery was adhered to an occult volar wrist ganglion. The flap harvest was completed after complete excision of the ganglion.

Case Report

A 61 years old man with vitiligo was diagnosed with carcinoma of the left buccal sulcus involving the mandible and the buccal mucosa. He was posted for composite tumor resection followed by reconstruction with FRAFF. The non dominant left upper limb was selected for the flap and preoperative clinical assessment revealed no abnormal neural and vascular signs or symptoms [Fig. 1]. During the flap harvest when the ulnar side of the flap was being mobilised, a lesion resembling a ganglion was found adhered to the radial artery and the tendon of Flexor carpi radialis [FCR]. As the flap was being raised under tourniquet control and loupe magnification, the lesion was dissected completely and was found that it was indeed a ganglion originating from the radioscapoid interval and having adhesions with the tendon sheath of the FCR and radial artery [Fig. 2]. After complete dissection and removal of the ganglion, rest of the procedure continued as planned and the flap donor site was covered with split skin graft. Post operatively, no neural or vascular deficits were noted in the left hand.

Discussion

The ganglion is a benign soft tissue tumour with a well defined capsule made up of collagen and contains a gelatinous material predominantly made up of hyaluronic acid [1, 2]. Women are more commonly affected than men [3:1] and the maximum incidence is from 2nd to 4th decade of life. The exact aetiology and pathogenesis of ganglion are not clearly

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Fig. 1 Preoperative marking for the flap. There is no evidence of ganglion swelling in the surface

defined and up to 80 % of ganglion are found on the dorsal aspect of the wrist while 20 % of them on the volar aspect [3]. The volar wrist ganglion are most commonly situated on the radial side of the FCR tendon and arise from the radio carpal joint or scapho trapezial joint and may involve extensively in to adjoining soft tissue structures of the hand, wrist or forearm including the radial artery [4, 5]. Because of this extensive involvement, they poorly respond to non surgical management and with surgery, incomplete excision and recurrence, injury to the radial artery are common. Occult volar wrist ganglion are rare and from hand surgical point of view, they must be suspected and appropriate investigations be conducted in patients with chronic and vague symptoms of the hand.

Free radial artery forearm flap [FRAFF] is the most commonly used flap for microsurgical reconstructions inside the

Fig. 2 Intra operative image [within square]. The ganglion is located between the radial side of the flexor carpi radialis tendon and the divided ends of the radial artery

oral cavity owing to its versatile features such as thin and pliable skin paddle, long vascular pedicle, reliable vessels and ease of harvest [6]. A majority of anatomical variations reported in the literature during the flap harvest are related to the blood vessels of the forearm [7–9] and to the best of our knowledge this is the first time an occult volar wrist ganglion was noted during the FRAFF harvest. In this case, as the forearm skin with radial artery was elevated under tourniquet control and loupe magnification, it was easier to dissect the ganglion completely from its attachments [10]. As it was occult and asymptomatic, there was no suspicion of this condition during pre-surgical workup and Allen's test revealed no vascular compromise, we did not go for expensive radiological investigations. To conclude, this case is reported for its rarity and to emphasise the fact that occult volar wrist ganglion may remain asymptomatic and might present as an incidentaloma during FRAFF harvest and the expertise of a hand surgeon or a plastic surgeon might be required if the harvest is being performed by surgeons from different specialities for complete removal of the ganglion.

Conflict of Interest None

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