

Letters to Editor

Absence of the palmaris longus is a warning sign for avoiding the superficial ulnar artery 'trap'

Sir,

The superficial ulnar artery 'trap' occurs when the ulnar artery, rather than being located deep to the superficial muscles in the forearm, is located superficial to them. If the surgeon is unfamiliar with this anomaly, then the ulnar artery is at a risk for damage, as it may be confused with a superficial vein particularly when a radial artery forearm flap is raised under tourniquet control.^[1] The incidence of the anomaly has been estimated to be greater than 3%.^[2]

We performed a prospective study to determine if there were any noninvasive preoperative diagnostic tests that could warn surgeons of the presence of a superficial ulnar artery. From January 2009 to December 2010, we harvested 139 radial artery forearm flaps. Our preoperative assessment included hand dominance, Allen's test and the presence of the palmaris longus [PI] tendon. The PI is a significant anatomical landmark because when mobilising the skin paddle from the medial side, PI is the first tendon which is come across and this serves as an important landmark after which the flexor carpi radialis [Fcr] comes and the radial artery lies adjacent and deep to it. When PI is absent, one must be careful because the Fcr will be the first tendon and any overshooting of the Fcr in these circumstances will disrupt the perforators which arise from the radial artery and supply the skin paddle. Therefore in our institute, we routinely check for the PI during preoperative workup in addition to hand dominance and Allen's test. Six patients had bilateral absence of PI and two patients had unilateral absence. Both patients with unilateral absence of PI had a superficial ulnar artery that was only recognised intraoperatively [Figures 1 and 2], as the preoperative Allen's test was negative in both cases. None of the other 137 patients, including the six with bilateral absence of PI, had superficial ulnar arteries. The results in Table 1 show that, in our hands , unilateral



Figure 1: The lower arrow showing the superficial ulnar artery with its venae comitantes and the upper arrow showing the normal radial artery with its venae comitantes



Figure 2: There is no palmaris longus, whereas the radial artery is located between the tendons of the flexor carpi radialis medially and the brachioradialis laterally

Table 1: Two way contingency analysis

	Palmaris longus absent unilaterally	Palmaris longus not absent unilaterally	Total
Ulnar artery normal	0	137	137
Ulnar artery superficial	2	0	2
Total	2	137	139

absence of the PI has both 100% sensitivity and specificity for predicting the presence of a superficial ulnar artery. Recognition of this physical finding should help other surgeons to avoid the superficial ulnar artery trap.

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