

PERFORATOR VARIABILITY IN THE ANTEROLATERAL THIGH FLAP: A SYSTEMATIC REVIEW

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Background:

Use of free flaps greatly improves reconstruction options and life's quality for patients undergoing defects reconstruction.

The anterolateral thigh (ALT) flap has become increasingly popular due to its versatility and minimal donor site morbidity.

Its major limitation has been uncertain in perforator anatomy, with occasional absence of suitable perforators and high variability in size and course.

The variability of anatomy has not been adequately explored previously, especially in caucasians.

The aim of review was to provide a summary of published evidence assessing perforator anatomy of ALT flap.

Methods and materials:

A broad search was undertaken through PubMed database using terms „ALT flap” and „perforator”. Search limits included English language and human subjects. Studies that examined more than ten patients were analyzed.

Results:

96 studies were identified, which included clinical-cadaver studies. 1257 thighs were examined with perforators ranging from 1.14 to 4.27. In majority of cases, descending branch of lateral circumflex femoral artery was the dominant pedicle and took a musculocutaneous route.

In some series, up to 5.5% thighs had no cutaneous perforators.

Venous data is limited with most studies reporting the presence of 2 concomitant veins of which the largest concomitant vein is selected for venous anastomoses.

Conclusions and future studies:

The ALT free flap is a reconstruction option in tissues defects of various causes. Adequate perforators for reconstruction are identified in majority of cases. Increased anatomical perforator knowledge may lead to further uptake of ALT free flap reconstruction and improved intraoperative troubleshooting.

Further studies investigating patients with no perforators in ALT may lead to improved clinical outcomes.

Key words: ALT; free flap; perforator; variability.

