

In-Situ Pedicle Lengthening of Anterolateral Thigh Flap

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ABSTRACT

The anterolateral thigh (ALT) flap has been a reliable and adaptable flap commonly used for the head and the neck reconstruction due to its versatility and long vascular pedicle. However, the complexity of local vasculature has been designated by many researchers. For instance, if the suitable perforators come from the ascending, transverse, or oblique branch of lateral circumflex femoral artery (LCFA), the flap can only be harvested with relatively short pedicle rather than those originate from the descending branch.

The author employs in-situ microsurgical anastomosis between the most distal part of descending branch of LCFA to the most proximal part of ALT flap perforator without influencing the main blood flow of the main trunk of LCFA. This new idea lengthens the originally short pedicle from 6cm to 18cm by adding almost whole length of descending branch. Without separating the target flap from the lateral thigh in advance, it causes even no ischemic time under two-team simultaneous approach and no need of extra wound. Finally, this method successfully solves our problem of insufficient pedicle length as well as the free flap is entirely survived.

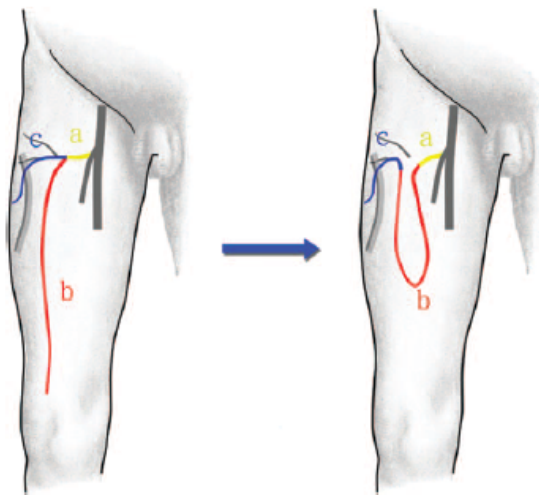


Fig. 1. In situ lengthening of the anterolateral thigh flap pedicle. The original pedicle length is supposed to be $(a + c)$. After dissection of the descending branch of the lateral circumflex femoral artery (b) and performing the new one-artery and two-venae comitantes anastomosis, the pedicle is elongated to $(a + b + c)$ without extra flap ischemic time.

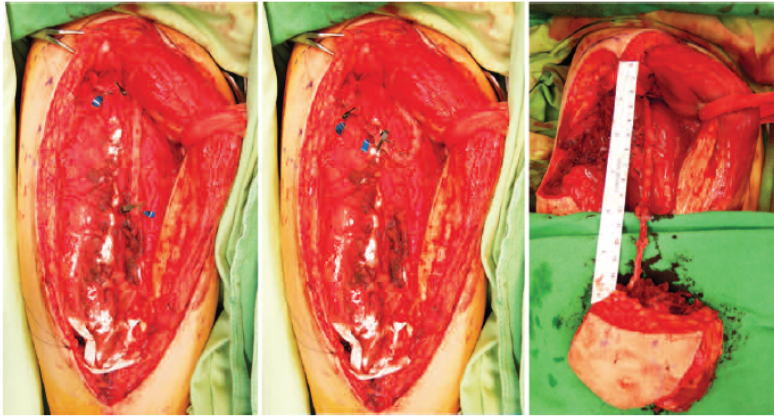


Fig. 2. (*Left*) Dissecting and identifying the sizable anterolateral thigh perforator originating from the oblique branch of the lateral circumflex femoral artery. Dissecting the descending branch to the most distal part. (*Center*) In situ anastomosis of the most proximal part of the perforator to the most distal part of the descending branch of the lateral circumflex femoral artery. (*Right*) The pedicle in situ is successfully lengthened from 6 cm to 18 cm without any extra flap ischemic time.



Fig. 3. The pedicle was successfully anastomosed from the right maxillary area to the left lower neck area.