Thin Patients are at Higher Risk for Venous Congestion During DIEP Reconstruction

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Introduction: Venous congestion occurs in 2-15% of deep inferior epigastric perforator (DIEP) flaps and often requires superficial inferior epigastric vein (SIEV) salvage.[1,2] We previously showed thicker suprascarpal fat pads (>23 mm) are associated with increased SIEV caliber.[3] We hypothesize that patients with thicker suprascarpal fat pads have a dominant superficial venous system and are more likely to suffer venous congestion.

Methods: An IRB-approved retrospective study was performed at New York-Presbyterian Hospital/Weill Cornell. Subjects included female patients who underwent unilateral or bilateral DIEP flap reconstruction from 2011- 2015. Radiographic measurements of suprascarpal fat pad thickness and SIEV diameter were collected per hemi-abdomen from pre-operative abdominal CT angiogram (CTA) imaging. Clinical outcomes recorded included: intra-operative venous congestion and SIEV usage. Statistical analysis explored if suprascarpal fat pad thickness was associated with clinical outcomes.

Results: 94 patients underwent 164 DIEP flaps. Mean suprascarpal fat pad thickness was 20.7mm ± 10.8 (4.9-65.4) and mean SIEV diameter was 2.8mm ± 0.7 (1.5-5.7). Five (3.0%) flaps exhibited venous congestion, with three (1.8%) requiring intra-operative SIEV salvage. All four cases of venous congestion in patients with pre-operative CTA occurred in flaps with suprascarpal fat pad thickness less than 18mm ($p=0.041$).

Conclusions: There is a significantly increased risk of venous congestion with thinner suprascarpal fat pads (<18mm), suggesting that venous congestion is not related to superficial draining system dominance or increased SIEV caliber. We recommend SIEV dissection with suprascarpal fat pad thickness <18 mm.

References:

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