

Confusion Regarding the Anatomy of the Superficial Inferior Epigastric Artery and the Superficial Circumflex Iliac Artery Superficial Branch

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Vessels originating from the femoral artery and traversing cranially in the subcutaneous tissue over the inguinal ligament exhibit great variability. We noted that the superficial inferior epigastric artery (SIEA) and the superficial circumflex iliac artery (SCIA) superficial branch (SCIA-SB) are widely used interchangeably in the literature. Fuse et al¹ attempted to elucidate this ambiguity, defining superficial branch as a superficial artery either sharing a common trunk with the deep branch or coursing toward the anterior superior iliac spine without such a common trunk. Then they defined SIEA as a superficial artery running medially along the linea semilunaris. The authors are to be commended for this study, but we have reluctance in accepting the definitions given.

Primarily, the superficial branch appeared in the literature to indicate a subcutaneous vessel branching from the SCIA, with the latter being “a vessel that crosses the fascia lata caudally and parallel to the inguinal ligament.”² It seems to be a logical consequence that the term “deep branch” implies the presence of a “superficial branch.”

Secondarily, according to the literature available on the SIEA, this vessel courses significantly lateral on the inguinal ligament and is almost invariably positioned lateral to the linea semilunaris,³ thus having a cranio-lateral direction. In addition to that, the possibility of the SIEA originating from a common origin or parent vessel with the SCIA has been considered to amount to up to 65% in a landmark article by Taylor and Daniel.⁴ For all the mentioned reasons, the available characterizations of SIEA and SCIA-SB clearly overlap: what some authors call SCIA-SB is being called SIEA by others. Further reinforcing this suspicion is the fact that

most anatomical studies in the literature tend to discuss either the SIEA or the SCIA-SB exclusively, without addressing both in the same study or delineating their distinctions.^{3,5}

At our institution, we routinely operate on the abdominal skin by performing body contouring procedures and harvesting abdominal-based free flaps, specifically focusing on subcutaneous vessels emanating from the femoral artery. We believe that the ambiguity between the SIEA and SCIA-SB is attributable not only to innate interindividual variability in terms of the number, location, and branching patterns of vessels, but also to the acquired differences in soft tissue characteristics in the abdominal and inguinal regions (linked to nutritional status, age, and previous surgery).

To simplify this complex matter and credit the literature on both the SIEA and the SCIA-SB, we would propose the following distinction: the vessel should be called the SCIA-SB only when branching from the SCIA (thus allowing the distinction of superficial and deep branch) and the SIEA when having a separate origin from the SCIA, regardless of its more medial or more lateral course (Fig. 1). The term SCIA could be reserved for vessels coursing caudal and parallel to the inguinal ligament according to the original description of the groin flap.²

In the clinical practice, the preparation of the subcutaneous pedicle during a flap harvest is not always performed down to the femoral artery, so the precise origin and unequivocal naming of the SIEA/SCIA-SB is not possible.

In such instances, the broad terminology “subcutaneous artery of the abdomen,” used by some 19th century anatomists, may prove useful⁶ (Fig. 2).

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DISCLOSURE

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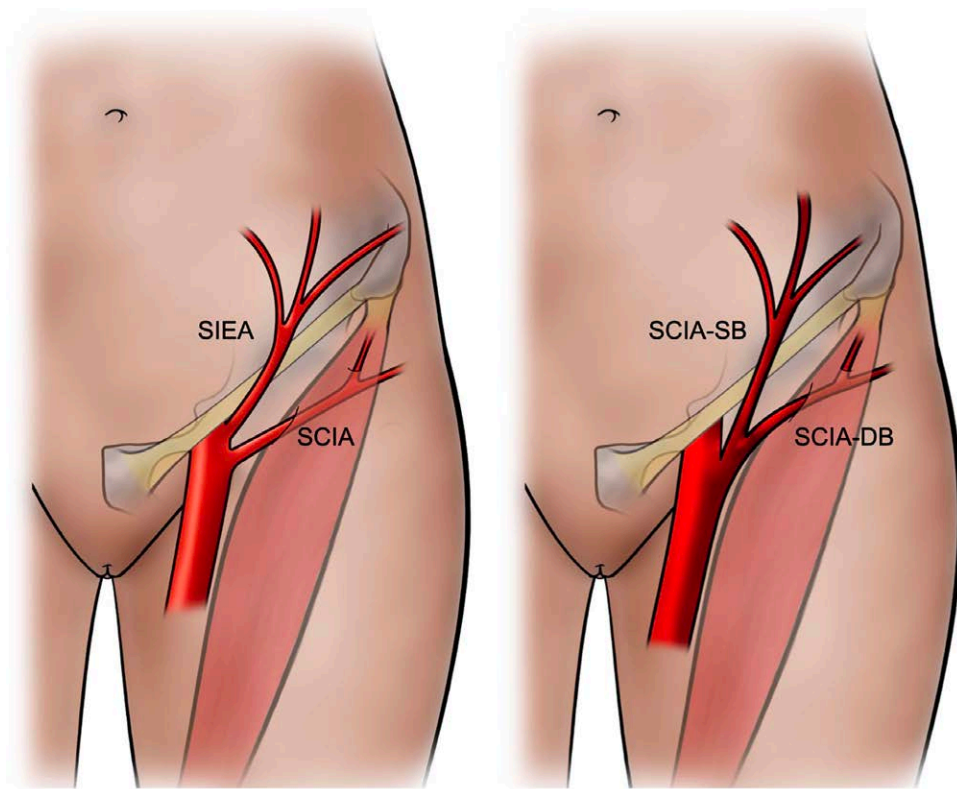


Fig. 1. Proposed distinction between SIEA and SCIA.



Fig. 2. The abdominal skin is harvested, and the subcutaneous arteries coming from the femoral regions are identified. According to the literature, these could be called either SIEA or SCIA-SB. If the exact origin of these vessels is not determined, the term “subcutaneous artery of the abdomen” can be used. The asterisks indicate the location of the anterior superior iliac spines.

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