

A RARE ORIGATION OF THE FIRST TWO BRANCHES OF THE FEMORAL ARTERY

(Received 10 February, 1995)

M. Yüksel, Ph.D.* / E. Yüksel, M.D.**

* Assistant Professor, Department of Anatomy, Faculty of Medicine, Marmara University, Istanbul, Turkey.

** Specialist in Plastic and Reconstructive Surgery, ONEP Plastic Surgery Institute, Istanbul, Turkey.

SUMMARY

In this study, we encountered the superficial circumflex iliac artery and the superficial epigastric artery arising from the deep femoral artery as a common trunk unilaterally in a 39 year old male cadaver.

Key Words : Superficial circumflex iliac artery, Superficial epigastric artery, Deep femoral artery, Femoral artery

INTRODUCTION

The femoral artery is a continuation of the external iliac which begins behind the inguinal ligament, between the anterior superior iliac spine and the symphysis pubis and descends the thigh anteromedially. Femoral artery and vein are superiorly enclosed by the femoral sheath. Within this sheath, it gives the superficial circumflex iliac, superficial epigastric, superficial external pudendal and the deep pudendal branches (1, 2).

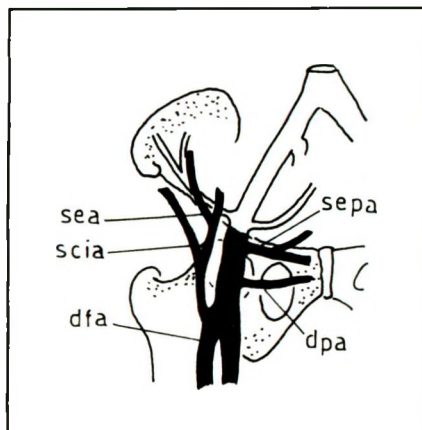
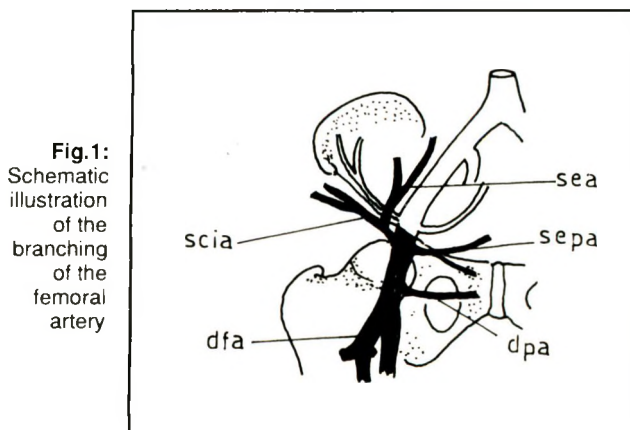
The superficial epigastric artery (SEA) arises anteriorly from the femoral artery about 1 cm distal to the inguinal ligament. It ascends anterior to the inguinal ligament and lies in the superficial abdominal

fascia to the level of umbilicus (fig. 1). It supplies the superficial inguinal lymph nodes and superficial fascia of the thigh and skin. It anastomoses with branches of the inferior epigastric artery.

Superficial circumflex iliac artery (SCIA) is the smallest superficial branch of the femoral artery. It arises near or with the SEA. It usually emerges the fascia lata lateral to the saphenous opening, then it turns laterally distal to the inguinal ligament towards the anterior superior iliac spine (fig. 1). It supplies skin, superficial fascia of thigh and superficial inguinal lymph nodes. It anastomoses with the deep circumflex iliac, superior gluteal and lateral circumflex femoral arteries (1).

CASE REPORT

During our anterior thigh dissection of a 39 year old male cadaver, although we observed the superficial external and deep pudendal arteries in their normal course, we did not observe the origins of the SEA and SCIA from the femoral artery until it gives the deep femoral branch. When we dissected the deep femoral artery, we encountered a trunk of about 1 cm distal to the bifurcation. This trunk was 5 mm long and was divided into two laterally coursing branches which were the SEA and SCIA. They had a normal anatomic course and there were no abnormality on the other branches of the femoral artery. This variation was seen unilaterally (figs. 2, 3).



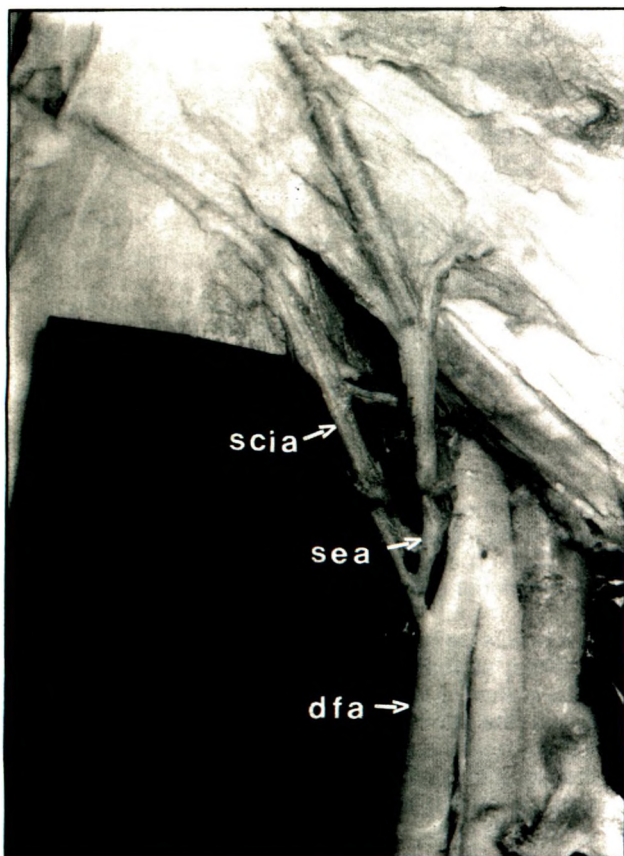


Fig.3: Appearance of the truncated superficial epigastric artery and superficial circumflex iliac artery from the deep femoral artery.

sea: superficial epigastric artery; scia: superficial circumflex iliac artery; sepa: superficial external pudendal artery; dpa: deep pudendal artery; dfa: deep femoral artery; fa: femoral artery.

DISCUSSION

Variations of the femoral artery and its branches are common, but we did not come across to the above mentioned variation in the literature. The importance of this case is not only to be a rare anatomical variation but also it is of clinical value, due to some surgical procedures, especially in plastic and reconstructive surgery.

There are axial pattern fasciocutaneous flaps based on SEA and SCIA separately, designed for coverage of soft tissue defects in reconstructive surgery (3, 4). It is still being widely used either as an island flap or as a free flap with a microvascular transfer. Epigastric flap based on SEA is also in the spectrum of choices for coverage of soft tissue defects (5). The harvesting procedures of these flaps require meticulous dissection and detailed anatomical familiarity. This

kind of variation which is related with the origin of these arteries is particularly important in harvesting these flaps for free tissue transfer.

The transverse rectus abdominis musculocutaneous flap is widely used for breast reconstruction (6). However, this flap does not have a rich blood supply. According to Takayanagi, during this procedure, the SEA and the SCIA can be used as "supercharging" superficial vessels (7).

As conclusion, it is possible to say that this abnormality must be kept in mind by the surgeons during operations.

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