A preliminary study of morphological and morphometric variations of internal iliac artery in a group of Sri Lankan subjects: A cadaveric study

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Internal Iliac Artery (IIA) is the principal blood supply to the pelvic viscera, gluteal region, medial compartment of the thigh and perineum. Ligation of the IIA is carried out for controlling pelvic bleeding in trauma, pelvic surgeries and post-partum haemorrhage. Therefore, it is very important to have a thorough knowledge of its anatomical relations and common variations. We examined IIA of both sides of pelvises of cadavers during educational dissection in the Department of Anatomy, Faculty of Medicine, University of Ruhuna. Branching pattern of the IIA, lengths of the common iliac artery (CIA) and IIA, and the diameters of main divisions of IIA were measured using a vernier caliper. Relation of the IIA to the external iliac artery (EIA) and the internal iliac vein (IIV) were noted. Independent t-test at 0.05 significant levels was used to compare sex differences in mean lengths of CIA and IIA and the mean diameters of main divisions of the IIA. The study included 30 IIAs in 15 cadavers. There were 8 males and 7 females. Four types of branching patterns of arteries were identified according to the Adachi's classification and most of them were in Adachi's type I (53.33%). Majority of IIAs (63.33%) coursed posteromedial to the EIA and anteromedial to the IIV (46.66%). There were no sex differences in mean lengths of CIA ($p=0.47$), IIA ($p=0.67$) and mean diameters of main divisions of IIA ($p=0.06$ each). Awareness of these variations is important for surgeons, obstetricians and radiologists to prevent inadvertent damage to neighbouring structures during surgeries and interventional procedures.