

University of Dundee

DOCTOR OF PHILOSOPHY

The vascular variability of the iliac system and clinical diagnosis in radiology and neurology

Al Talalwah, Waseem

Award date:
2013

Awarding institution:
University of Dundee

[Link to publication](#)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

DOCTOR OF PHILOSOPHY

The vascular variability of the iliac system
and clinical diagnosis in radiology and
neurology

Waseem Al Talalwah

2013

University of Dundee

Conditions for Use and Duplication

Copyright of this work belongs to the author unless otherwise identified in the body of the thesis. It is permitted to use and duplicate this work only for personal and non-commercial research, study or criticism/review. You must obtain prior written consent from the author for any other use. Any quotation from this thesis must be acknowledged using the normal academic conventions. It is not permitted to supply the whole or part of this thesis to any other person or to post the same on any website or other online location without the prior written consent of the author. Contact the Discovery team (discovery@dundee.ac.uk) with any queries about the use or acknowledgement of this work.

Figures of the internal iliac artery branches and the sciatic nerve

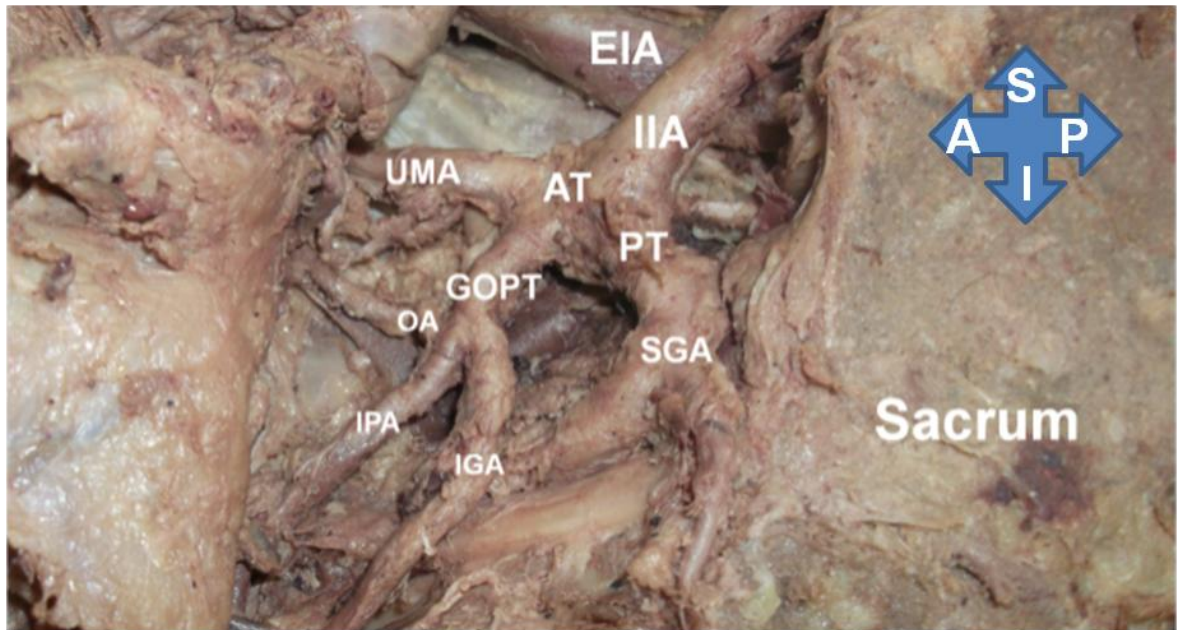


Figure B.1: The gluteo-obturator-pudendal trunk dividing into inferior gluteal, internal pudendal and obturator arteries.

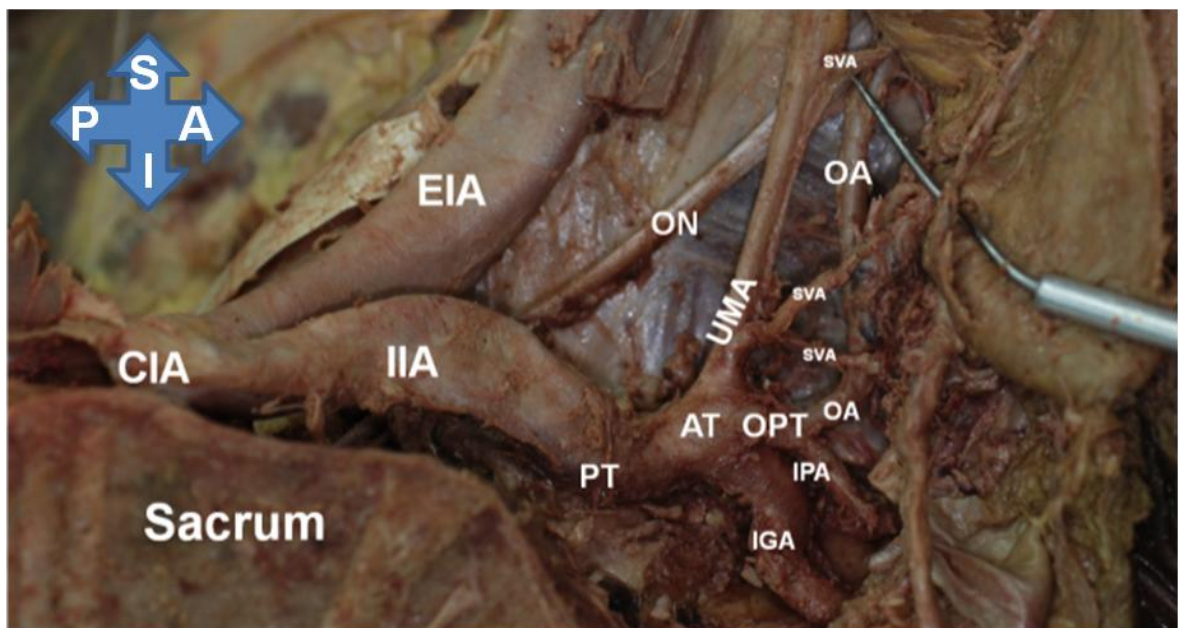


Figure B.2: The obturator-pudendal trunk dividing into internal pudendal and obturator arteries.

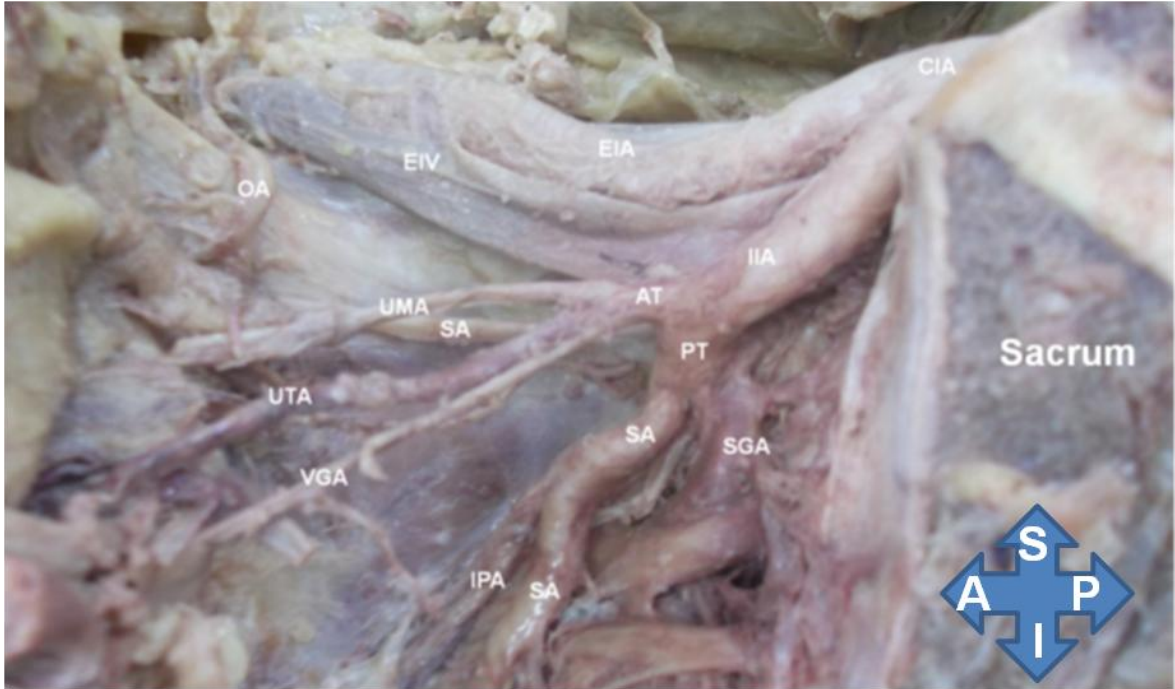


Figure B.3: The internal pudendal artery arising from the posterior trunk indirectly from the sciatic artery.

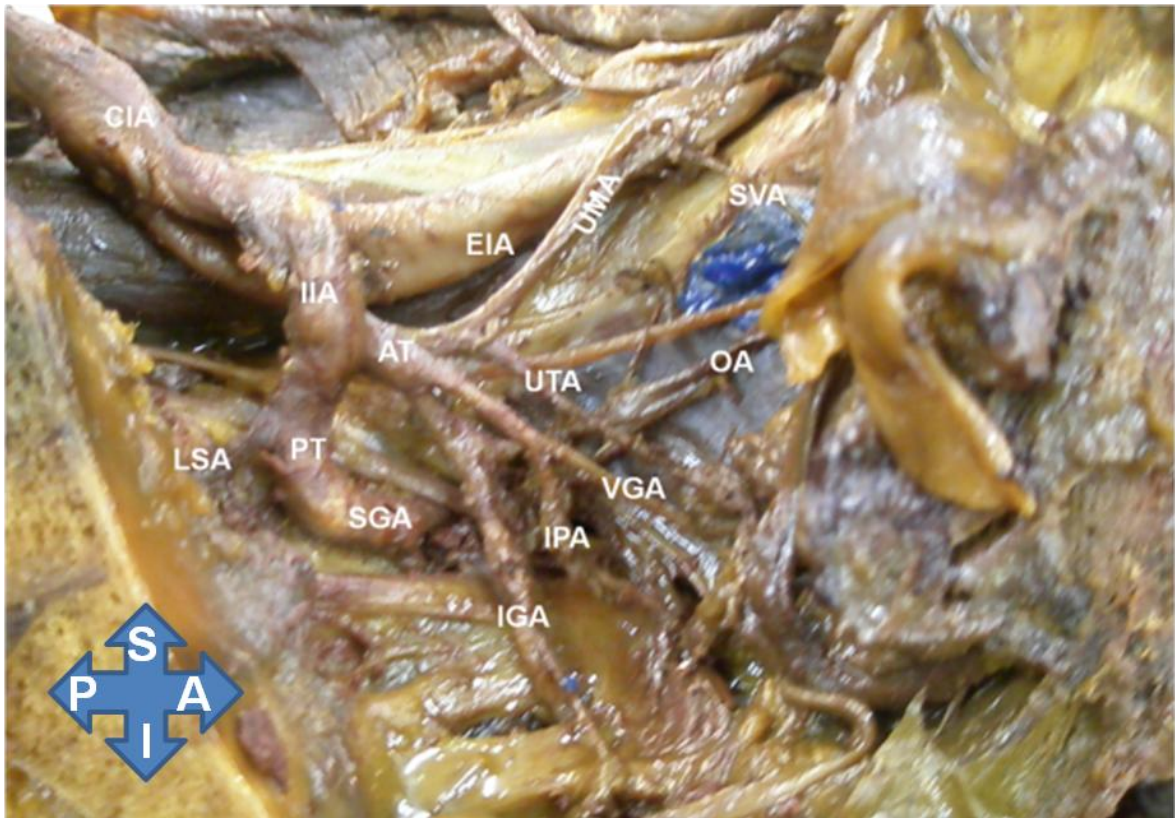


Figure B.4: Obturator artery arising from the anterior trunk indirectly from the inferior gluteal artery.

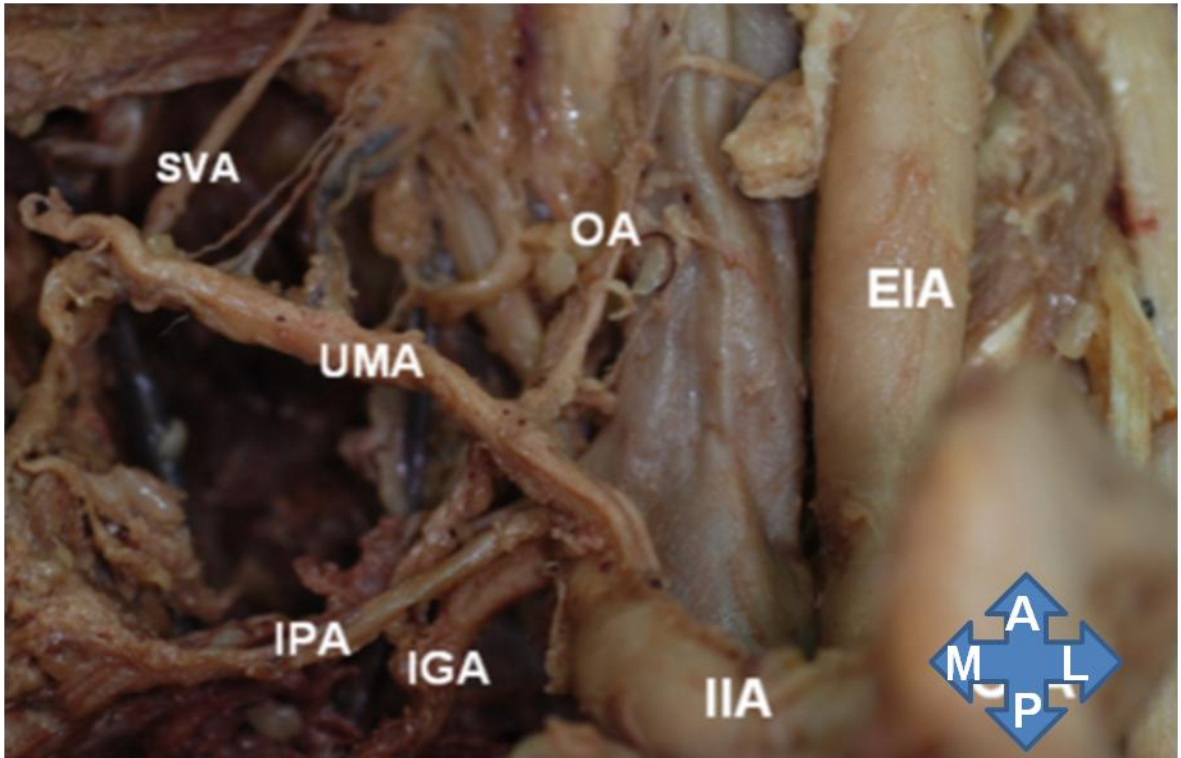


Figure B.5: Obturator artery arising from the umbilical artery.

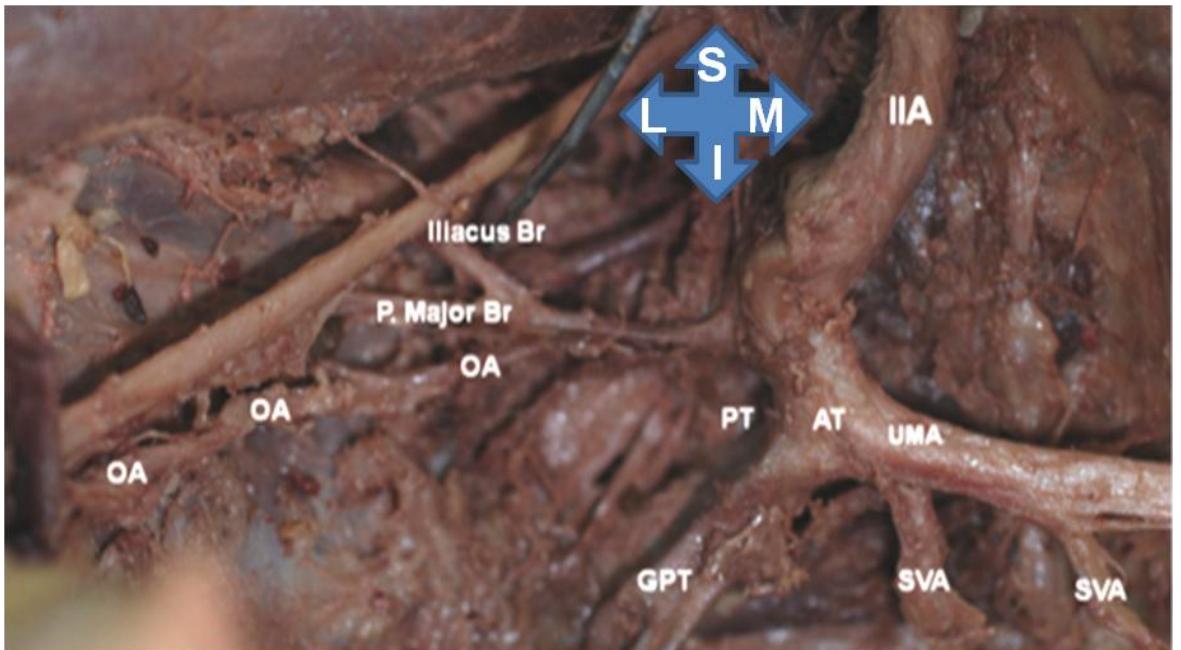


Figure B.6: The obturator arising from the dorsomedial aspect of the internal iliac artery bifurcation.

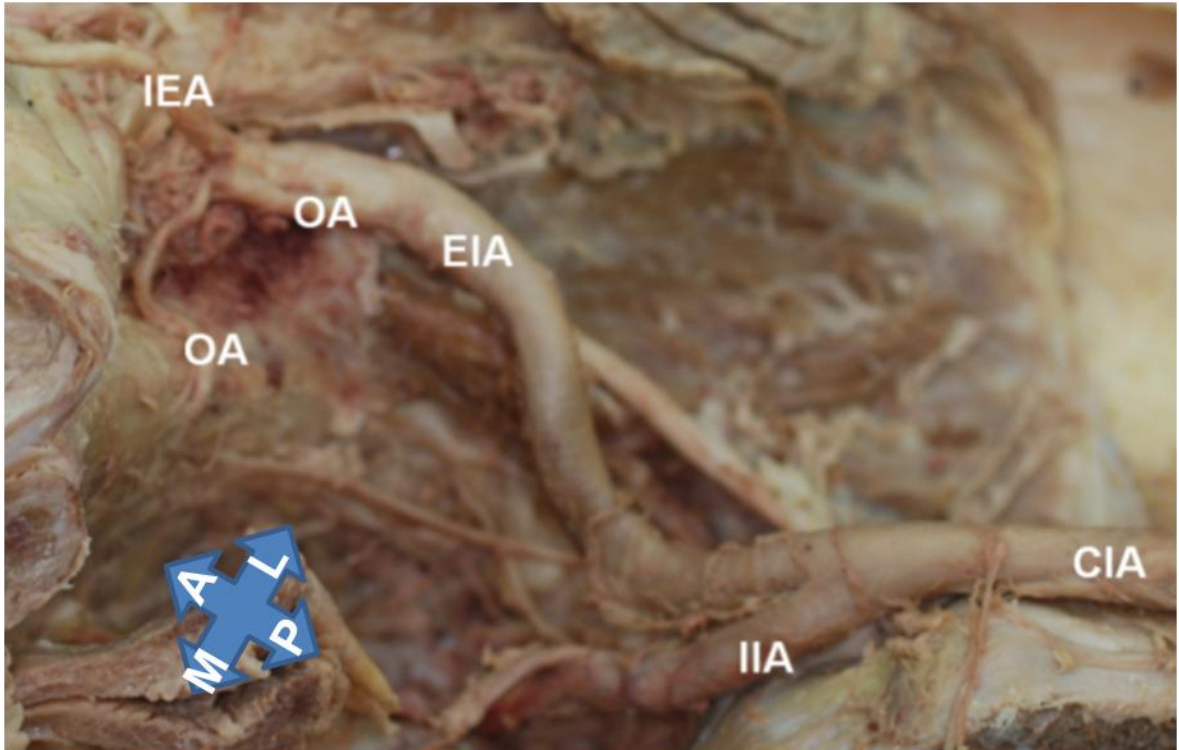


Figure B.7: The obturator artery arising from the external iliac artery alone.

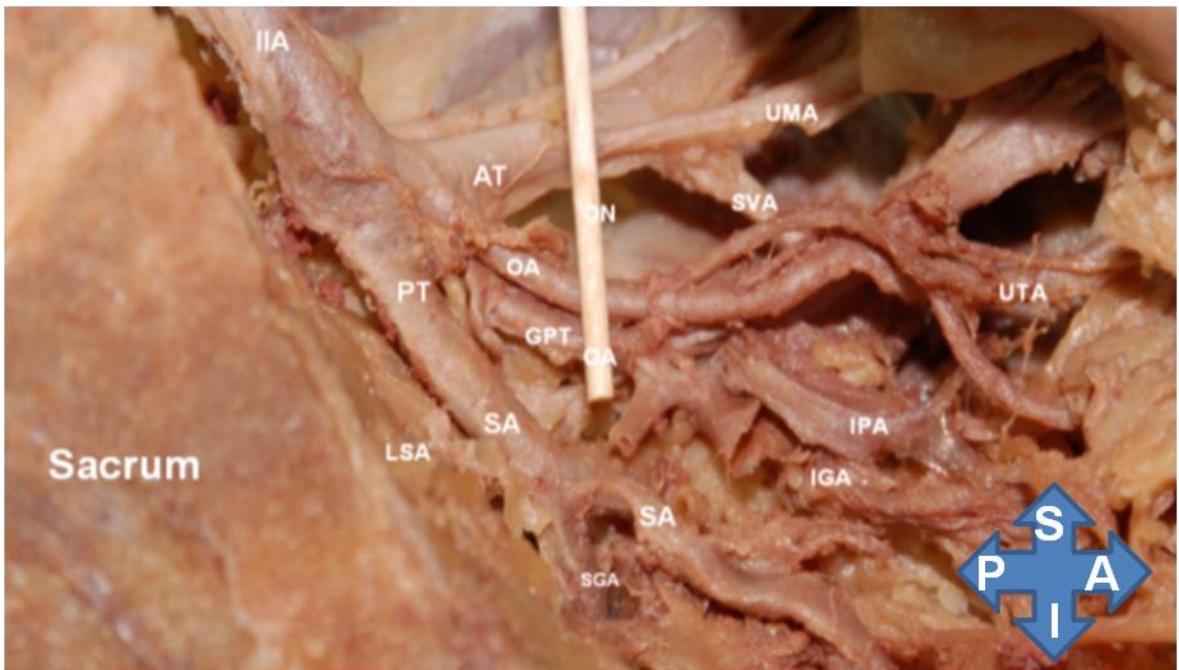


Figure B.8: The superior gluteal artery arising from the sciatic artery and passing dorsal to the sciatic roots formation.

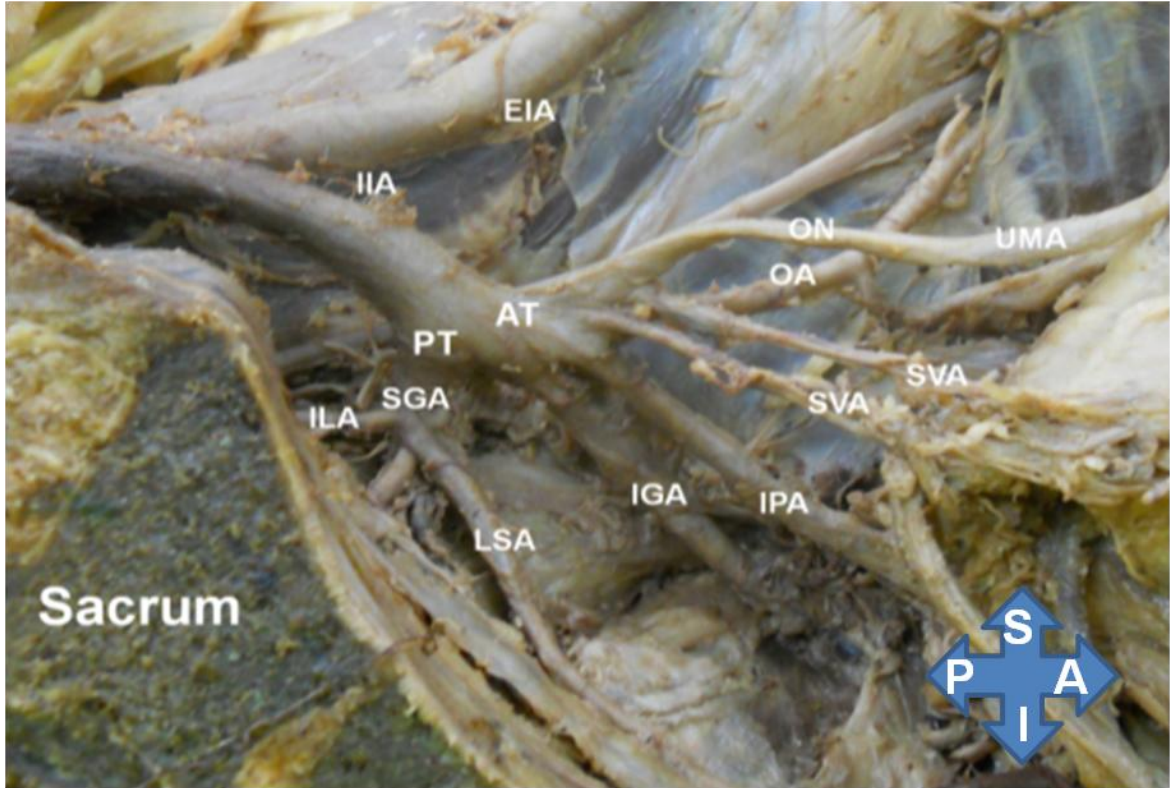


Figure B.9: The superior gluteal artery giving the iliolumbar and lateral sacral arteries.

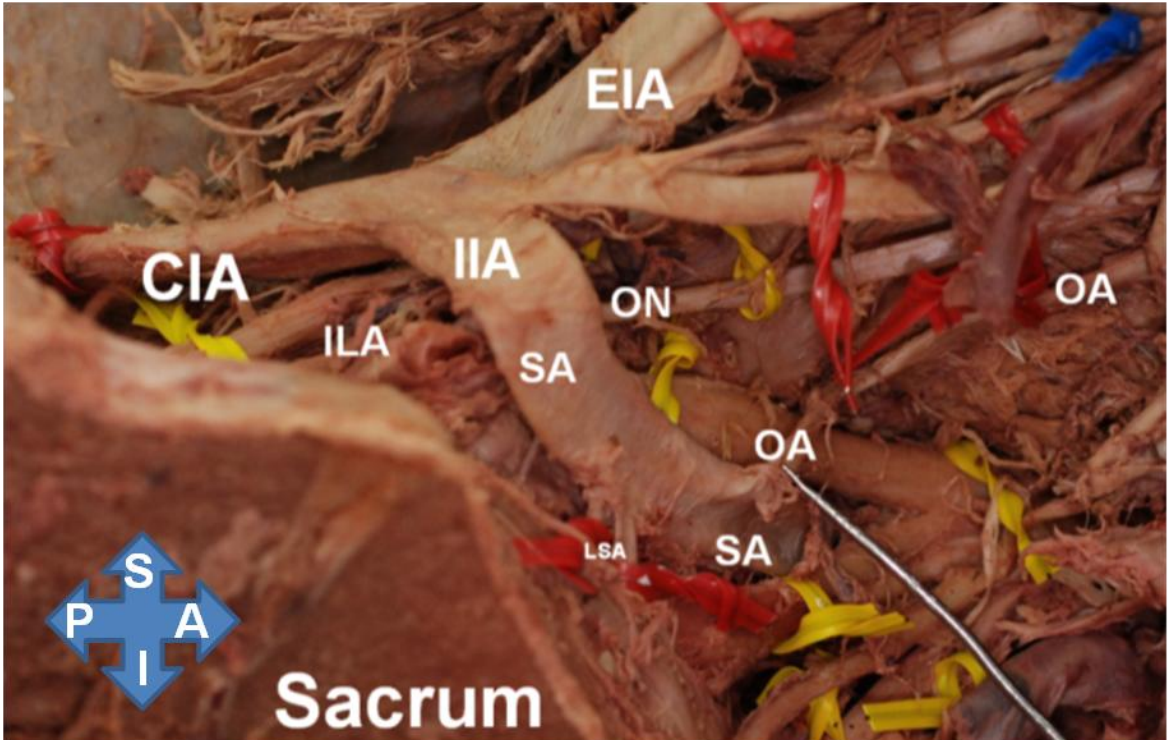


Figure B.10: The superior gluteal artery is congenitally absent and compensated for by the sciatic artery.

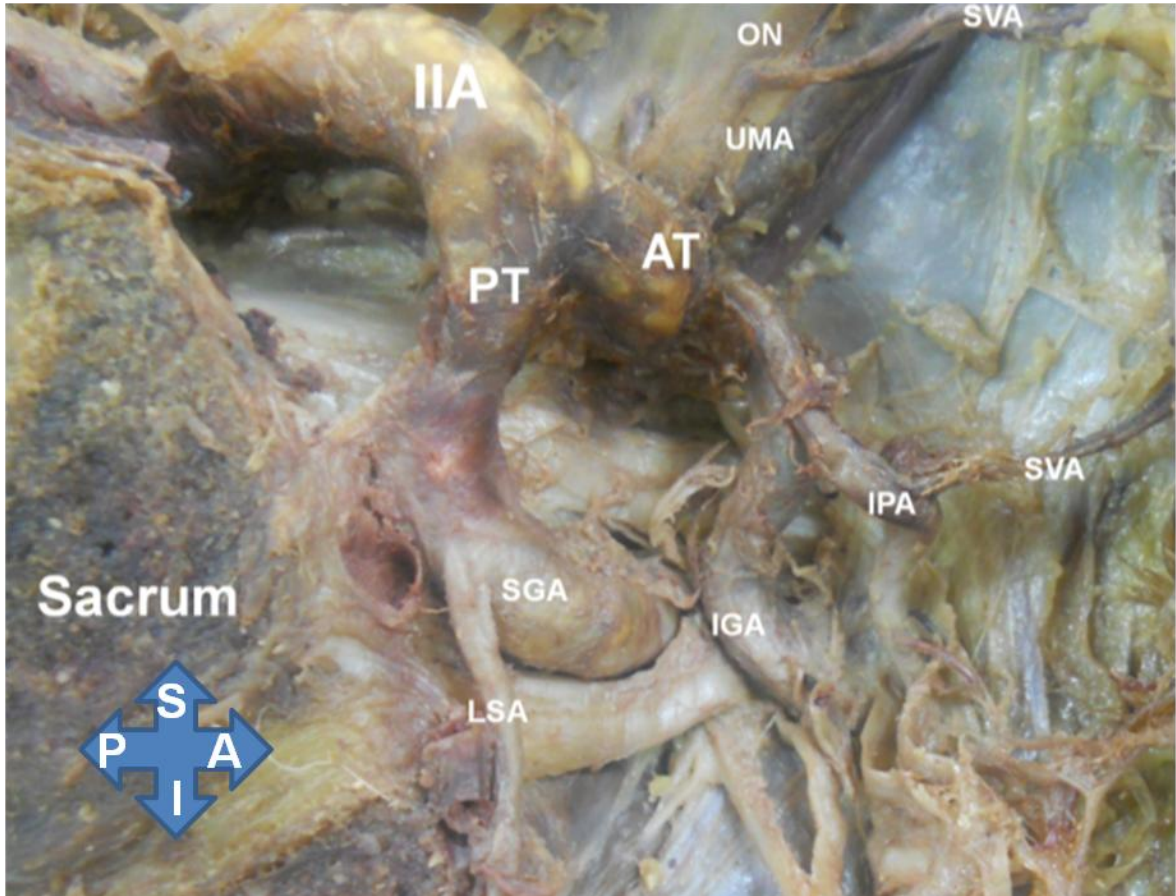


Figure B.11: Lateral sacral artery arising from the superior gluteal artery.

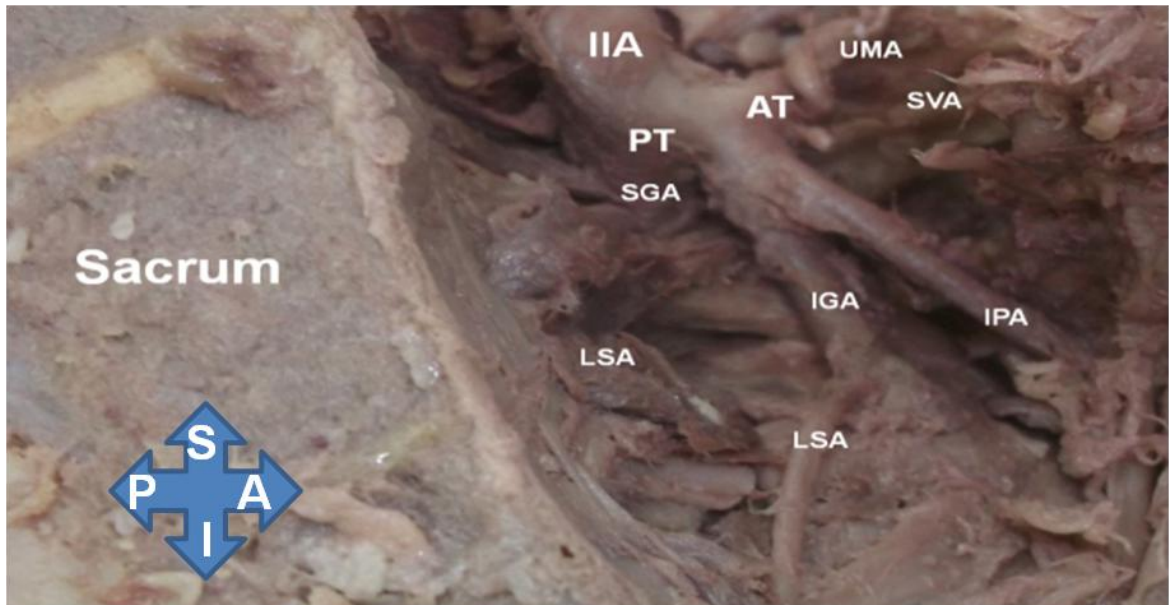


Figure B.12: Lateral sacral artery arising from inferior gluteal artery.

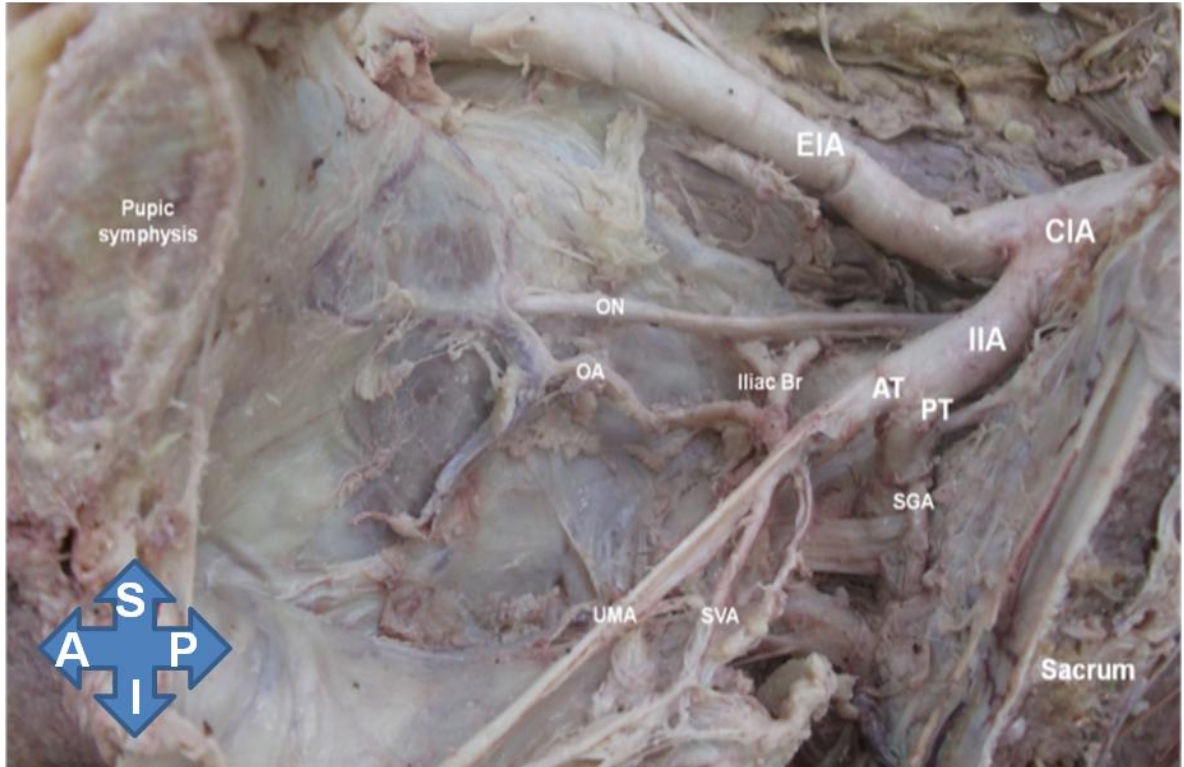


Figure B.13: The iliolumbar artery arising from the obturator artery.

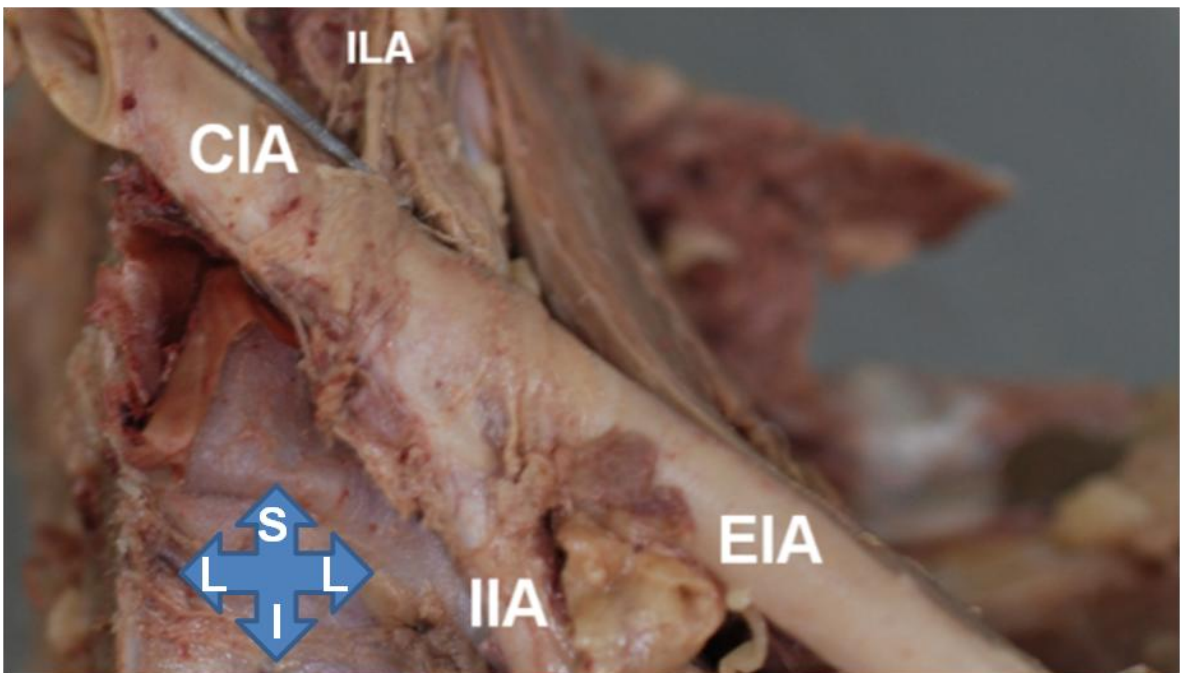


Figure B.14: The iliolumbar artery arising from the common iliac artery.

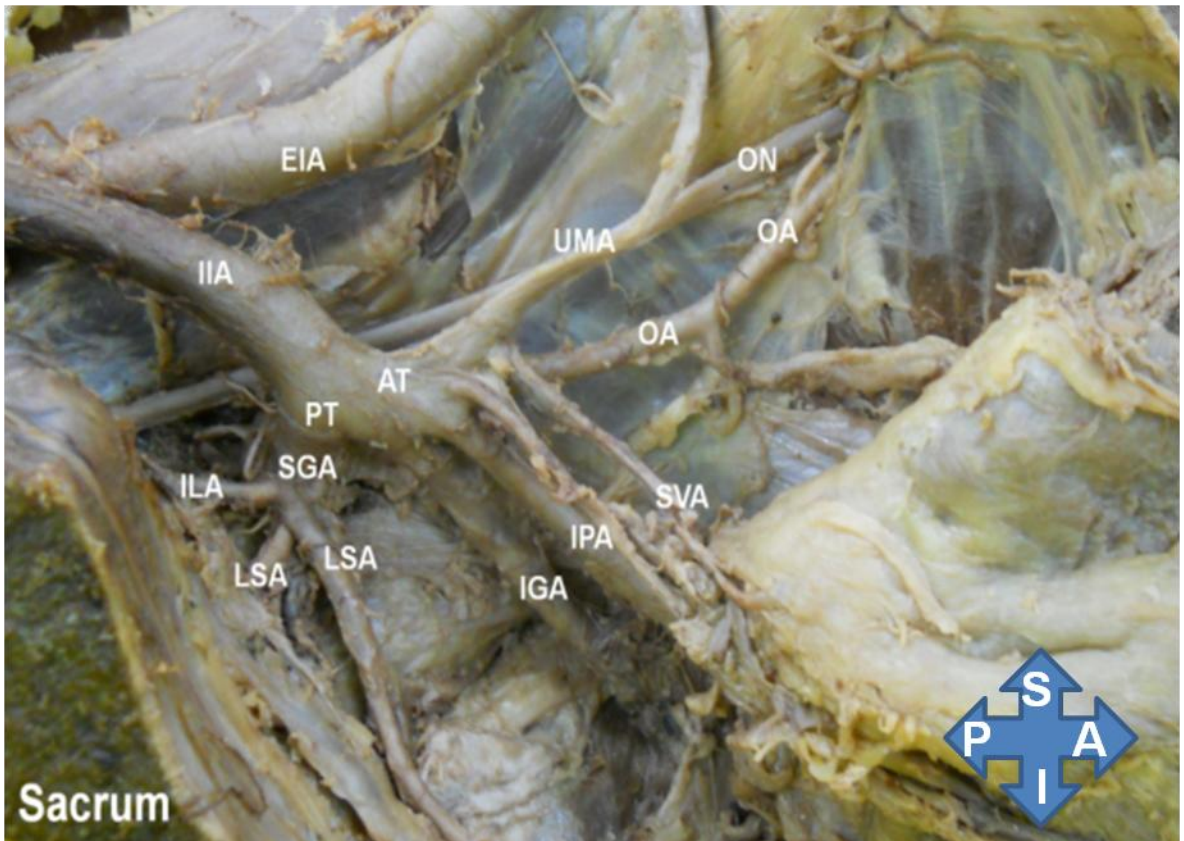


Figure B.15: The iliolumbar artery arising from the superior gluteal artery.

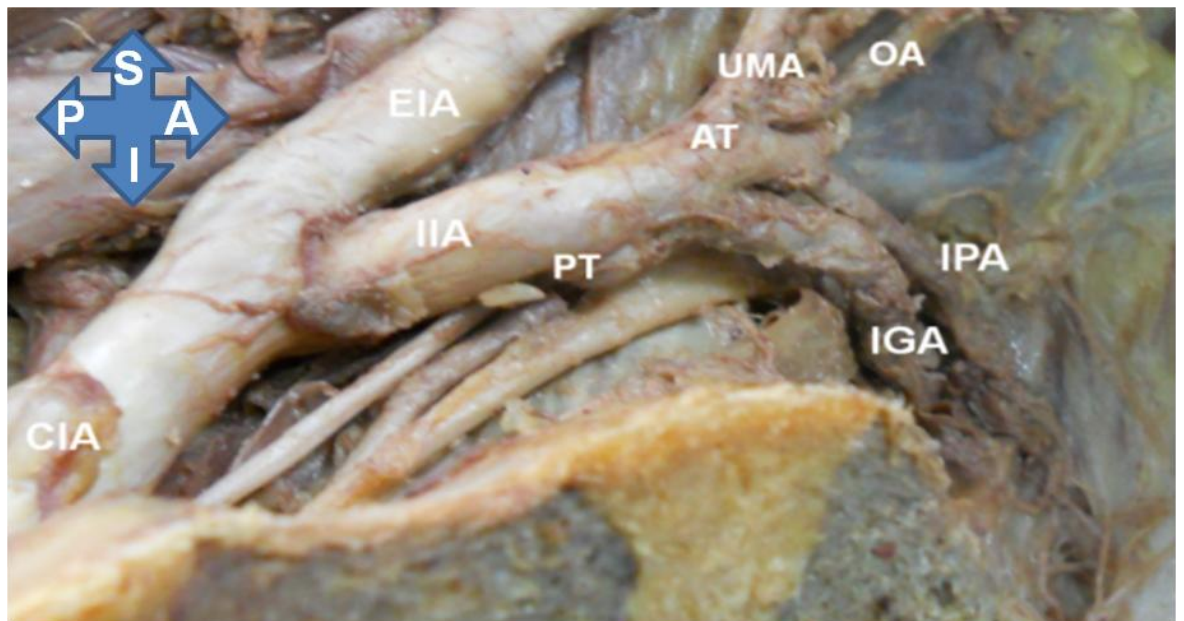


Figure B.16: The iliolumbar artery is congenitally absent.



Figure B.17: The sciatic artery passing ventral to the sciatic formation.

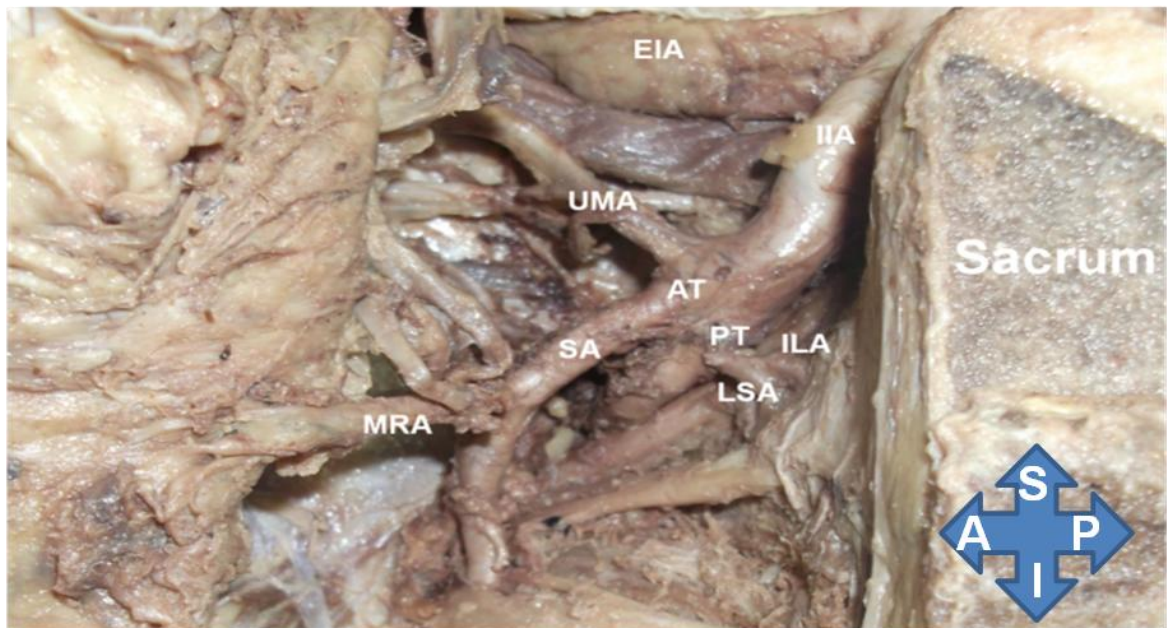


Figure 4.18: The sciatic artery piercing the sciatic formation from ventral to dorsal.

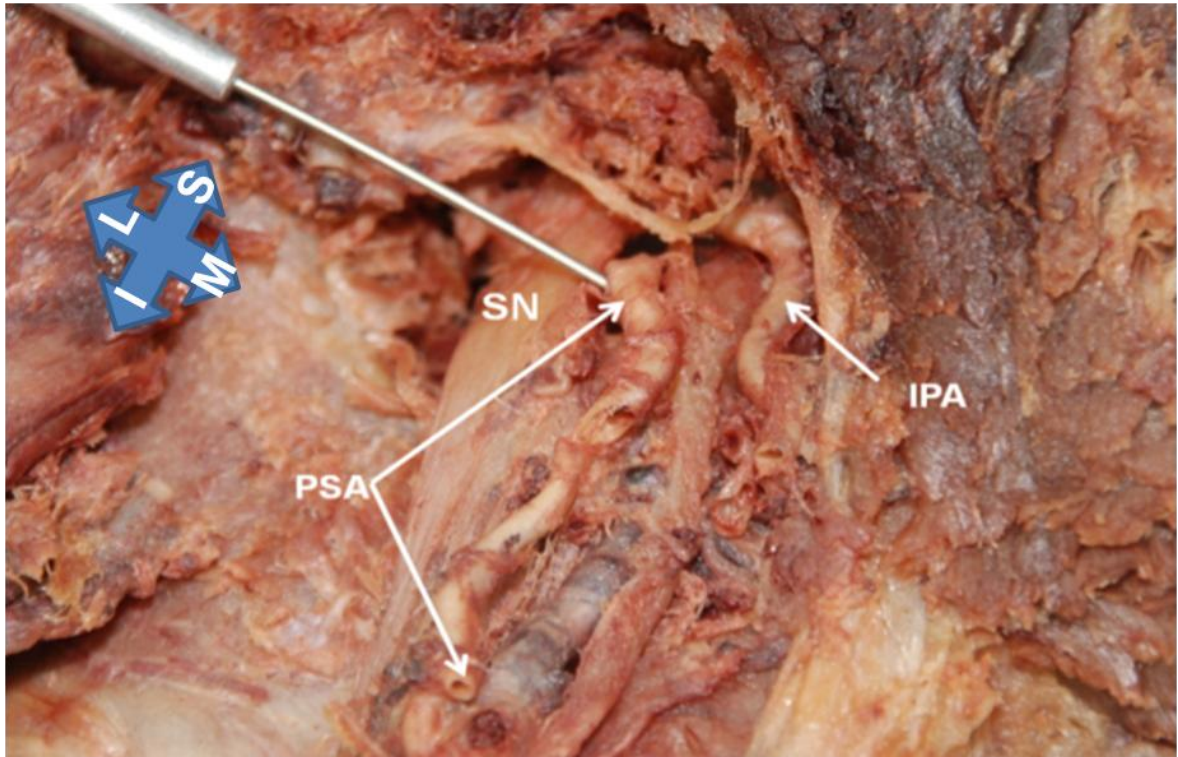


Figure B.19: The sciatic artery piercing the sciatic formation from ventral to dorsal exiting on the dorsal aspect of the sciatic nerve in the gluteal region.

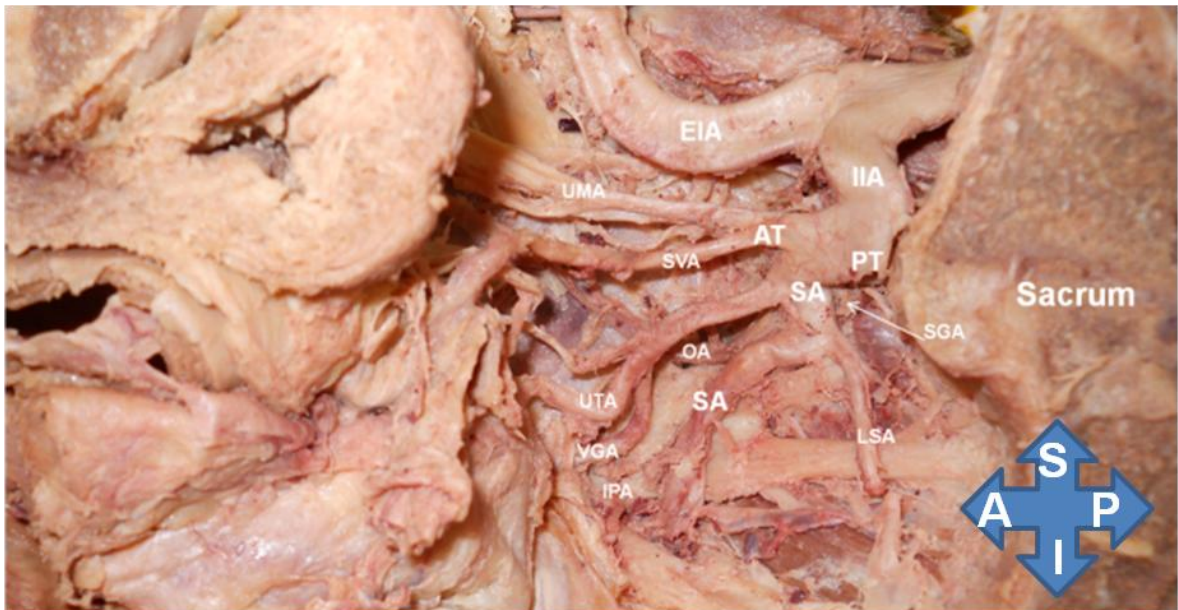


Figure B.20: The sciatic artery arising from the posterior trunk of the internal iliac artery giving the internal pudendal and lateral sacral arteries.

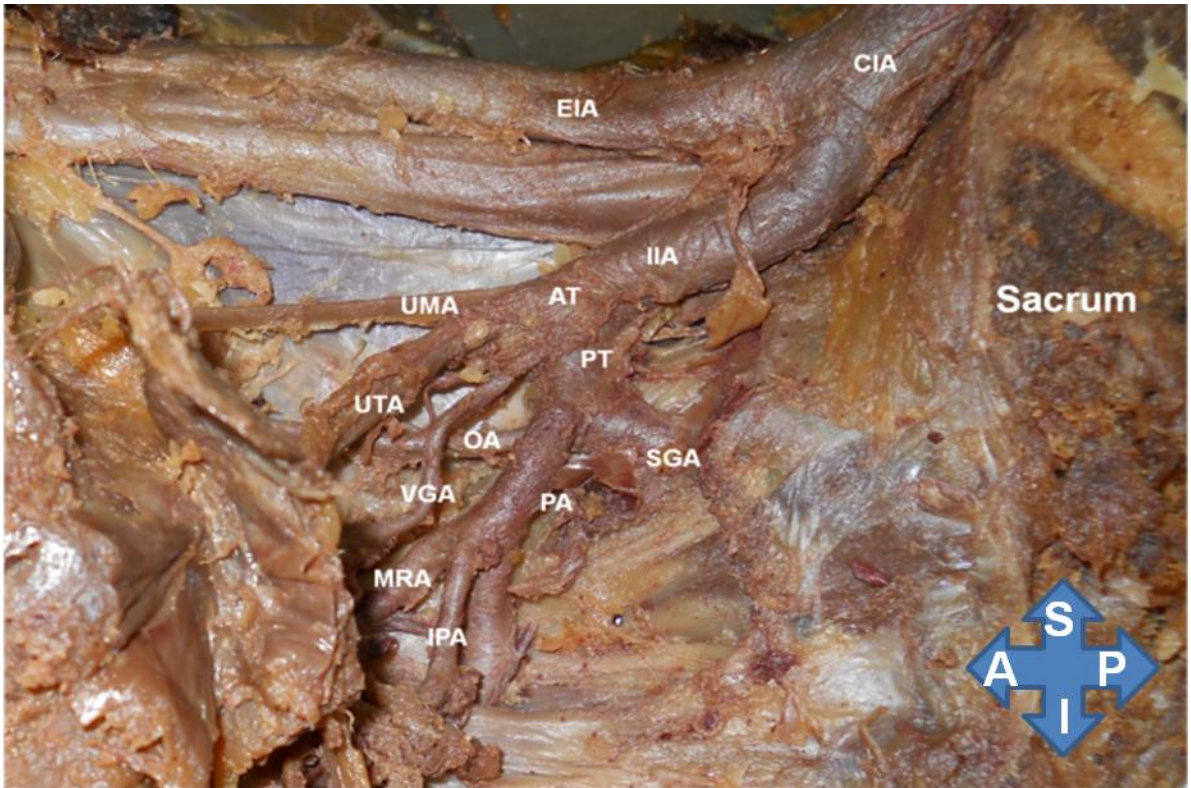


Figure B.21: The sciatic artery arising from the posterior trunk of the internal iliac artery giving the internal pudendal and middle rectal arteries.

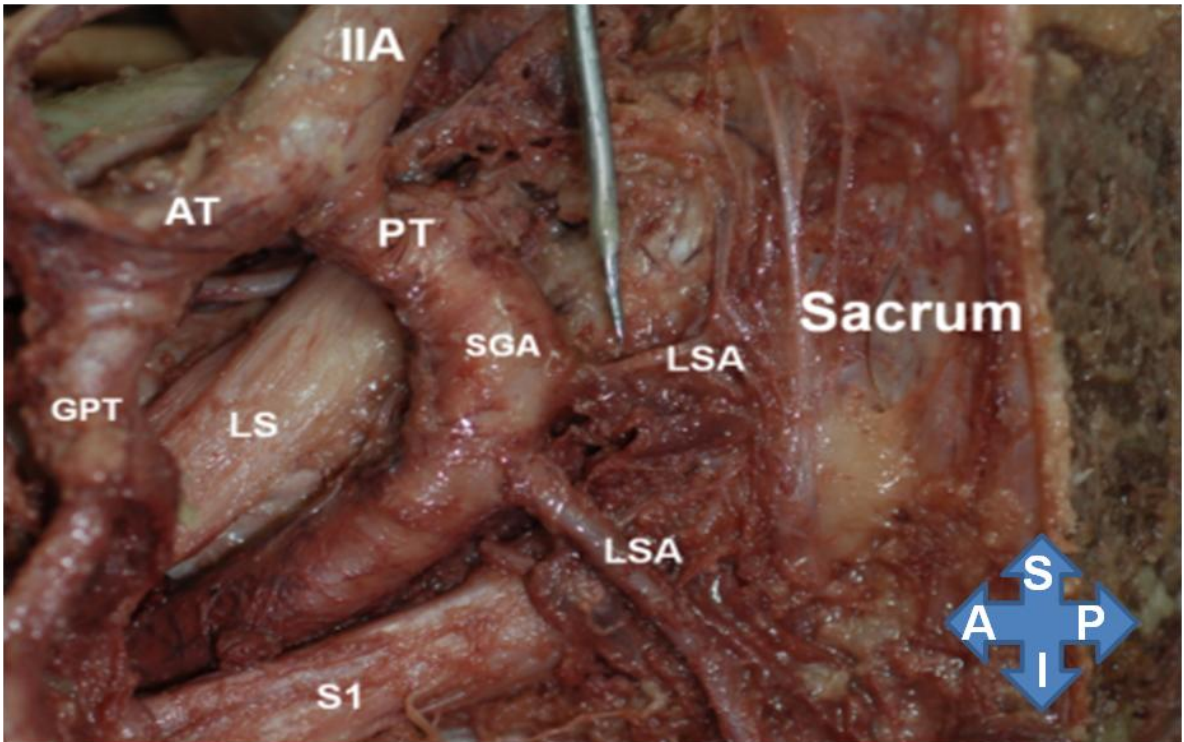


Figure B.22: Lateral sacral artery has ventral and dorsal branches. The ventral branch runs inferiorly over S1 and the roots below, whereas the dorsal branch root runs horizontally to pass through the sacral foramen.

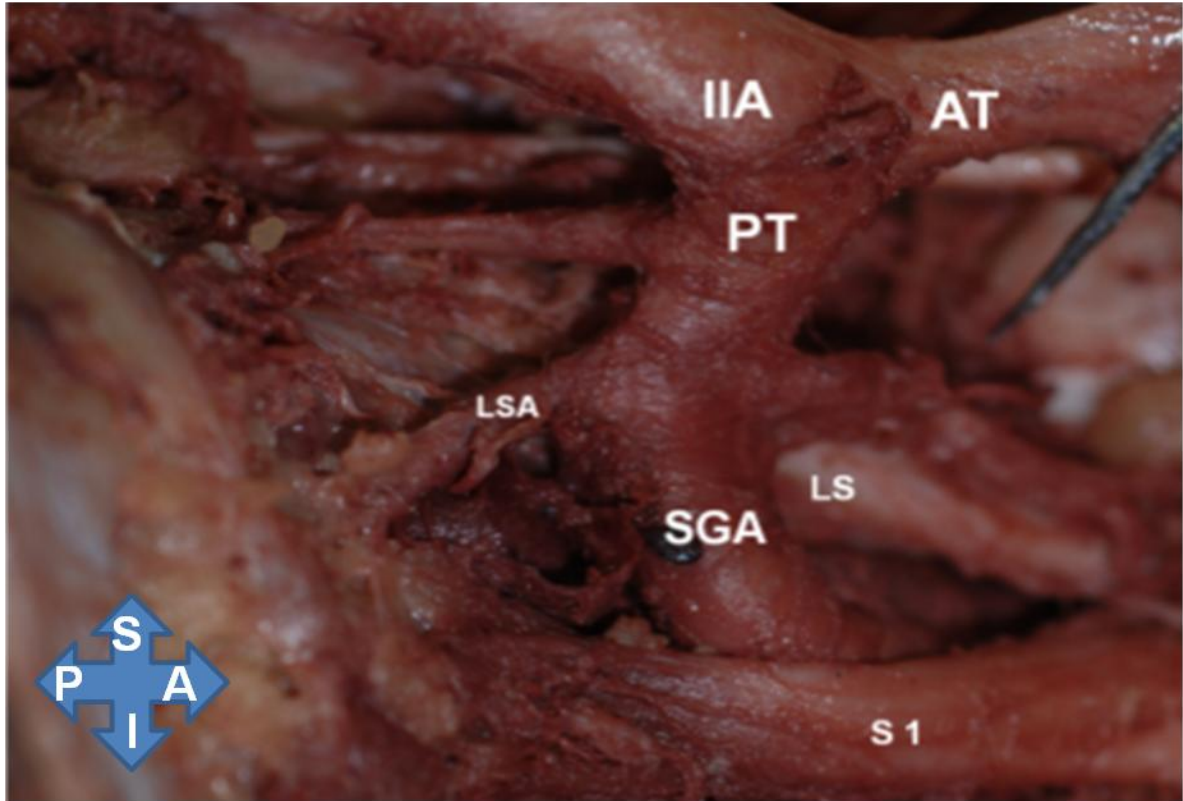


Figure B.23: The superior gluteal artery supplies the lumbosacral root and S1 during its pelvic course.

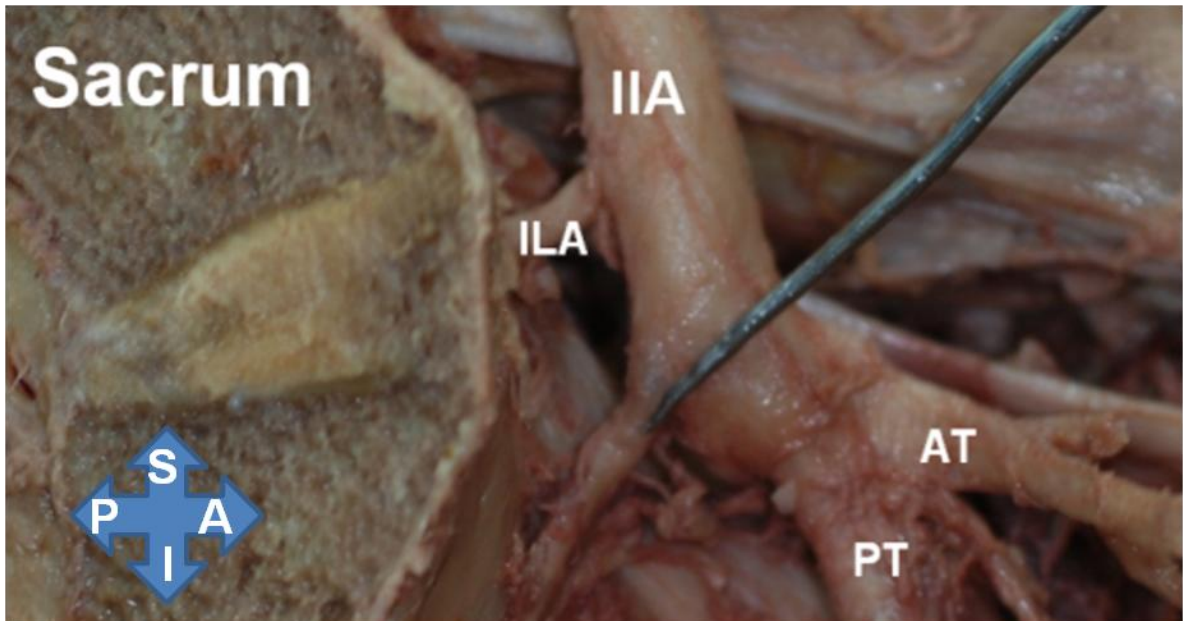


Figure B.24: High origin of the iliolumbar artery arising from the internal iliac artery or above and does not participate in the lumbosacral root supply.

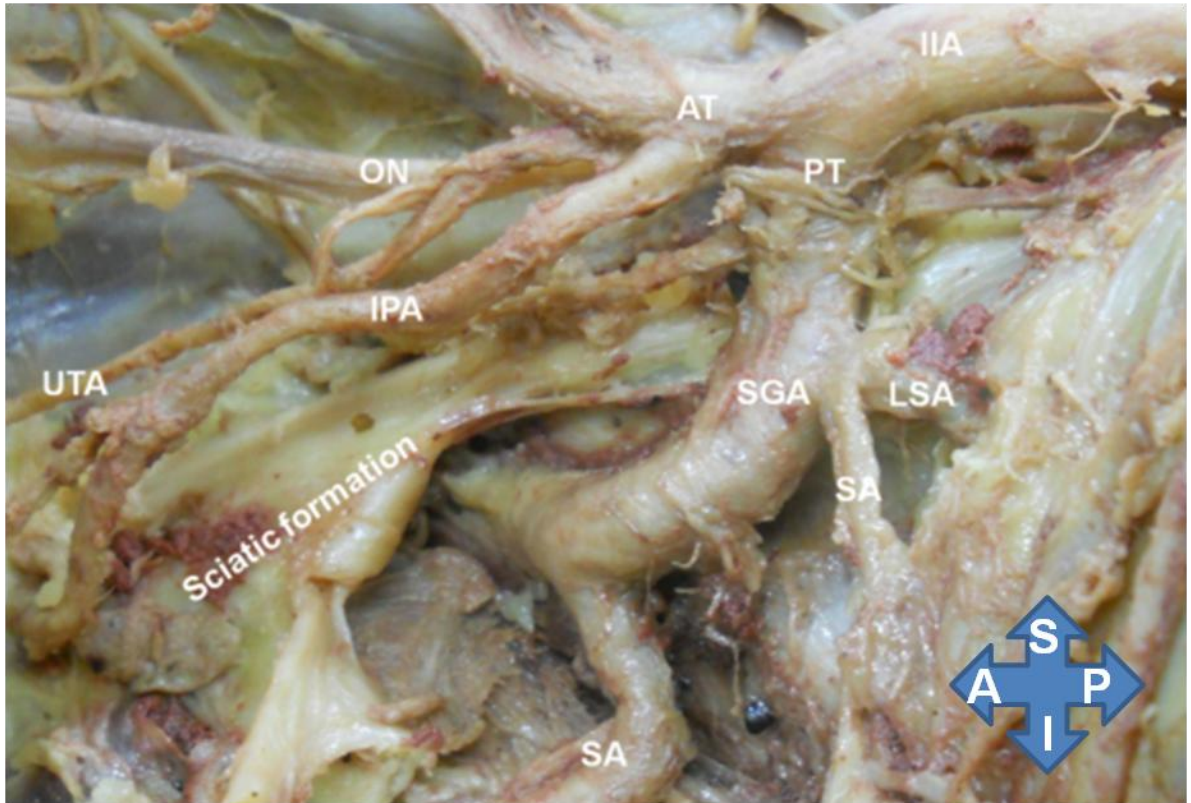


Figure B.25: Sciatic formation supplied by the superior gluteal artery.

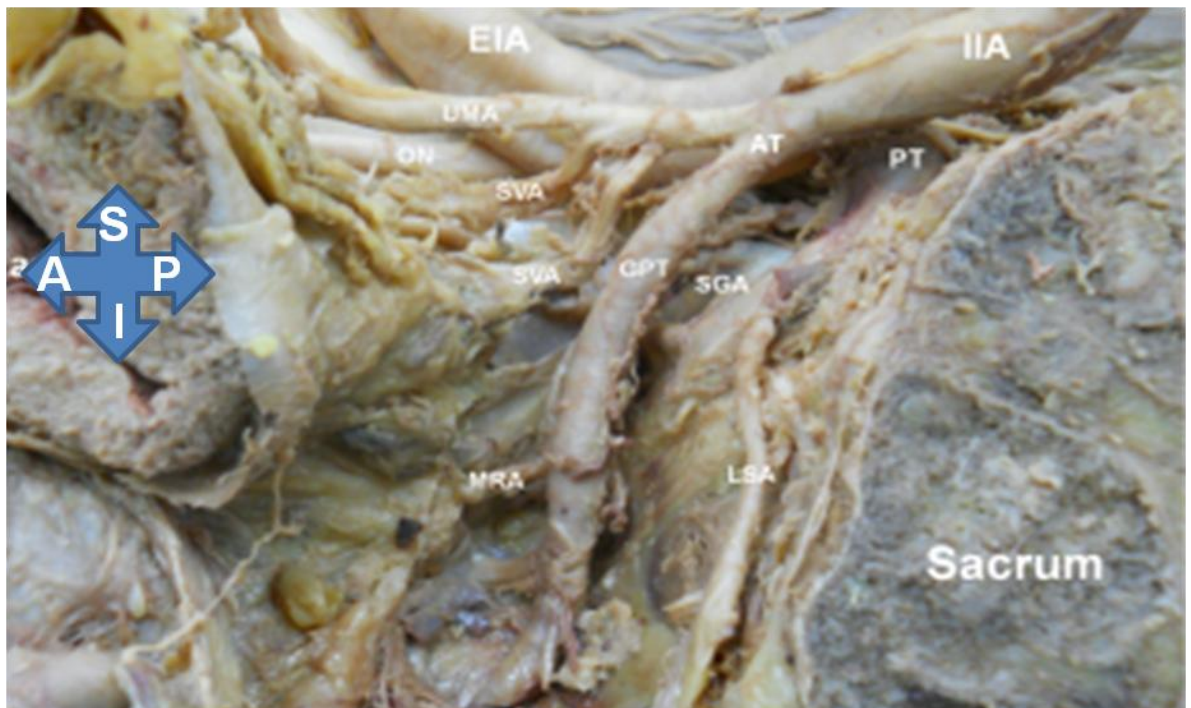


Figure B.26: A delayed gluteopudendal trunk division supplying the sciatic formation.

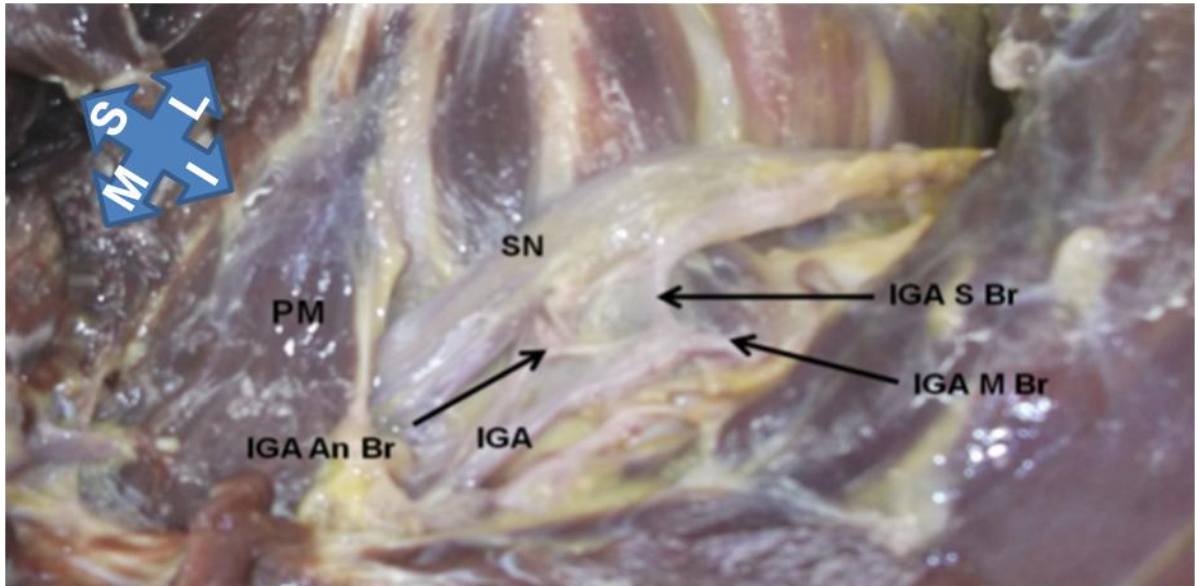


Figure B.27: The inferior gluteal artery giving sciatic, articular and muscular branches.

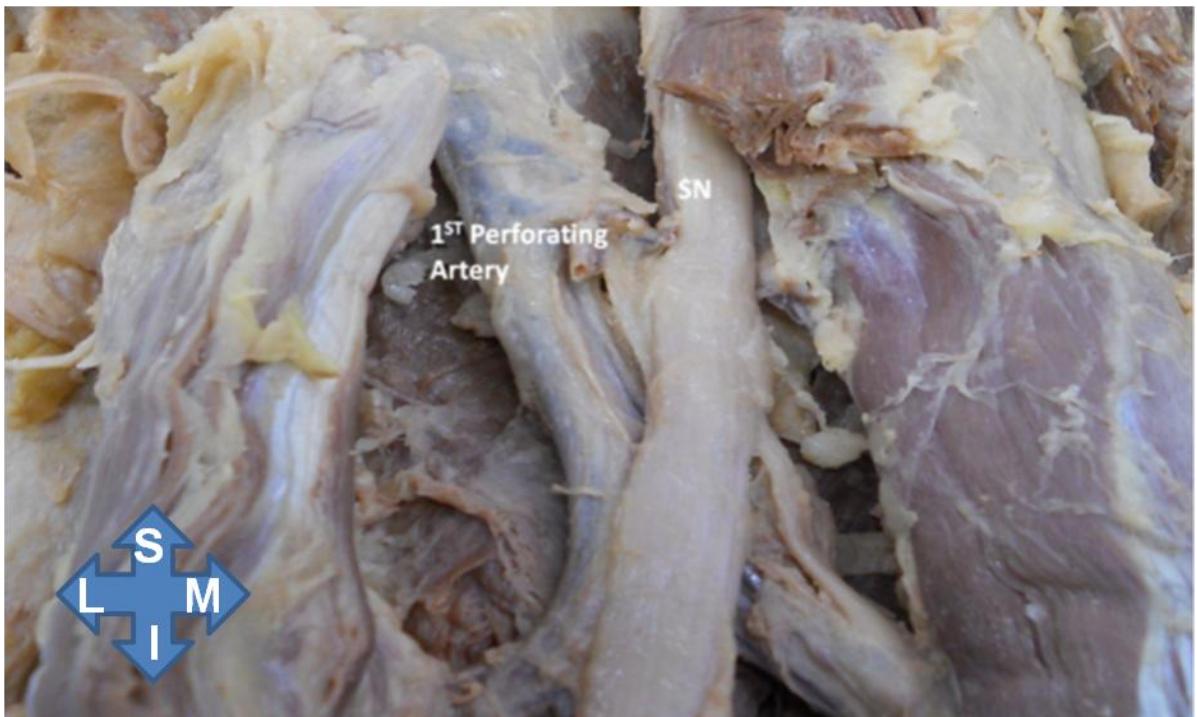


Figure B.28: The first perforating artery ascends ventral to the sciatic nerve to supply it as well as the hip joint.

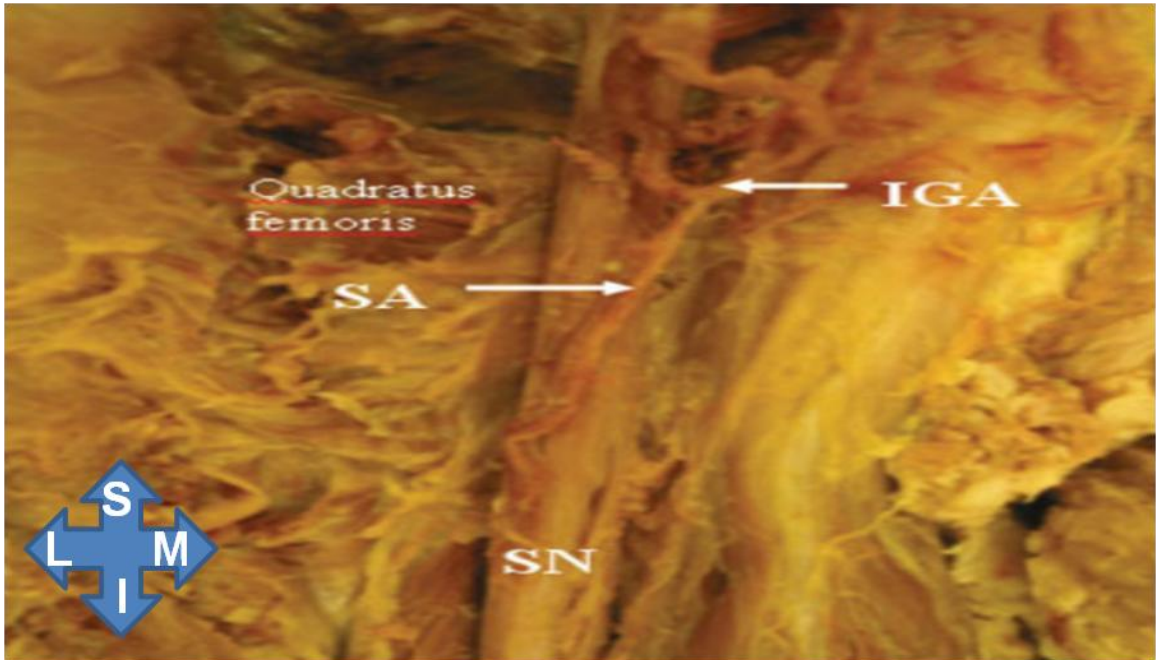


Figure B.29: Single sciatic artery (SA) arising from the inferior gluteal artery (IGA) and running parallel to the sciatic nerve (SN). This is a usual sciatic branch in humans found in 39% and referred as “Glutiae Arteria Ischiadic Glutea Inferioris”. (Georgakis E, Soames R. (2008) Arterial supply to the sciatic nerve in the gluteal region. Clin Anat 21(1):62-5).

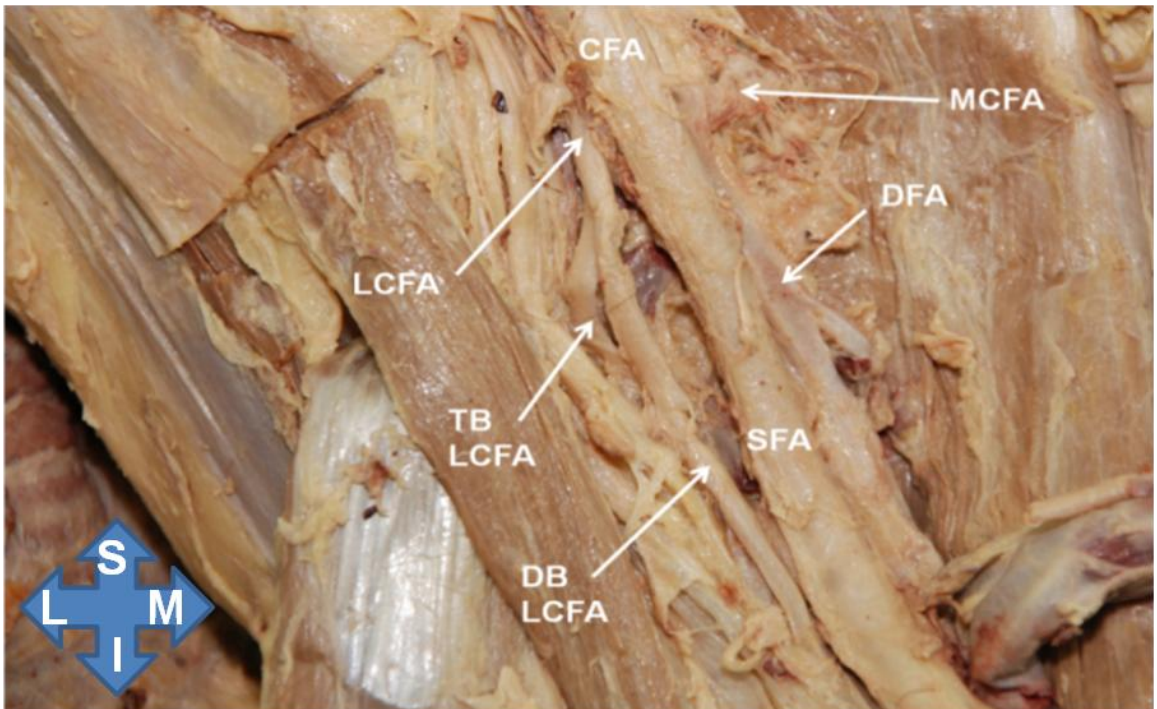


Figure B.30: Hypoplastic femoral system. The common femoral artery (CFA) trifurcates into superficial (SFA) and deep femoral (DFA) and lateral circumflex femoral arteries (LCFA) with the medial circumflex femoral artery (MCFA) arising from the deep femoral artery (DFA). The lateral circumflex femoral artery trifurcates into ascending (not shown) transverse (TB) and descending branches (DB).

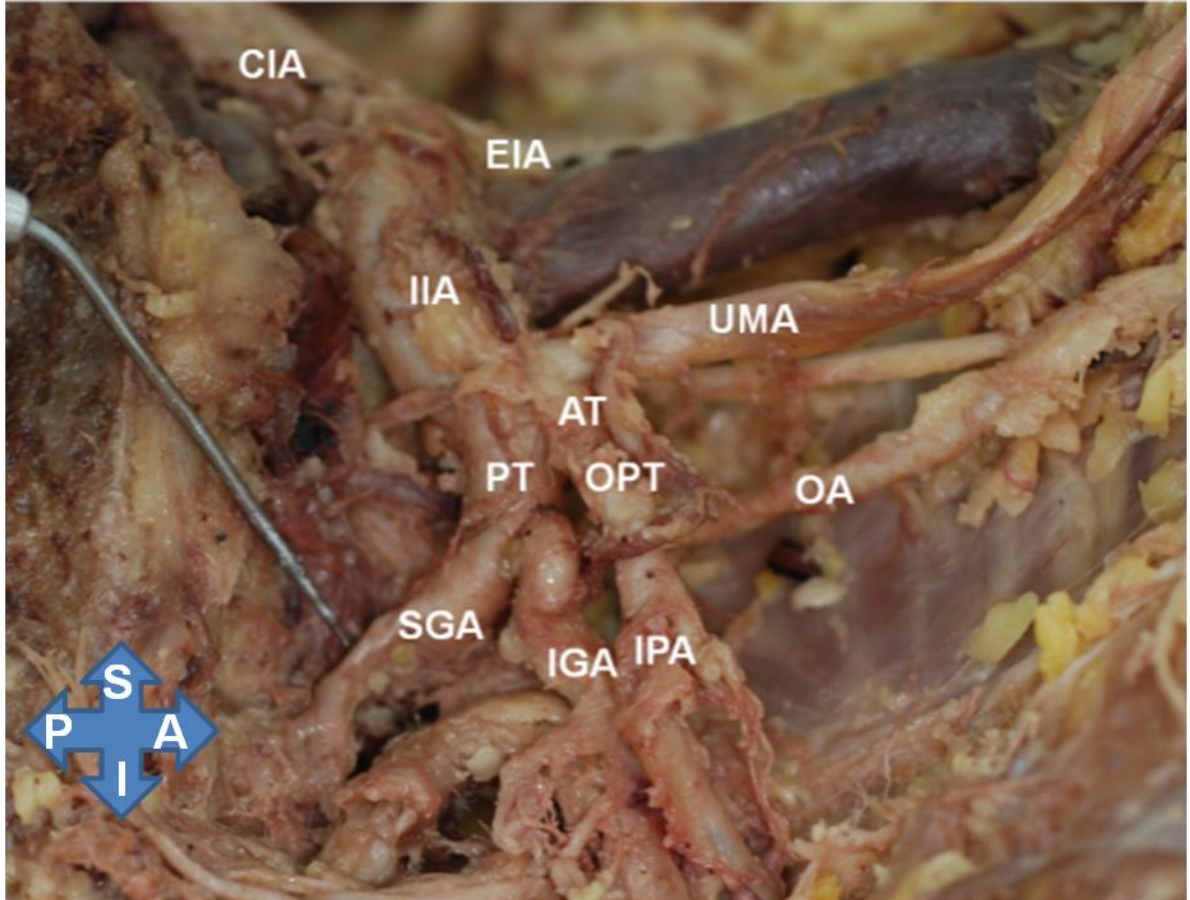


Figure B.31: Eighth case, the inferior gluteal artery arises from the posterior trunk. The primitive axial artery starts to regress as the blood flow shifts to the primitive anterior and posterior trunks. A delay in development of the anterior trunk results in modifying the obturator and inferior gluteal artery origin anatomically. The obturator artery arising from the anterior trunk is highly significant suggesting no delay in primitive anterior trunk development. Therefore, the primitive inferior gluteal artery arising from the posterior trunk is due to non selective plexuses, but the possibility of the primitive axial artery becoming the inferior gluteal artery anatomically has to be considered. Due to the obturator artery arising from the anterior trunk and the usual course of the inferior gluteal artery are used for anatomical identification.