THE ILIAC ARTERIES

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PLAN:

I. INTRODUCTION

II. DESCRIPTIVE ANATOMY

III. CONCLUSION

I – INTRODUCTION:

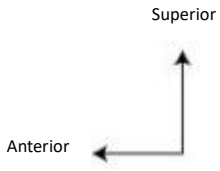
- There are two common iliac arteries.
- Each one divides into two main branches: the external iliac artery and the internal iliac artery.
- Together, they supply blood to the pelvis and the lower limb.

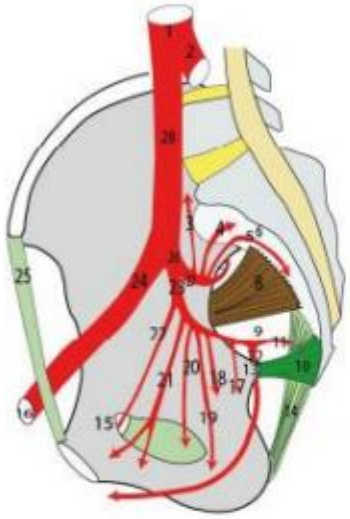
II – DESCRIPTIVE ANATOMY:

1. Common iliac arteries:

- Primarily considered as transit arteries, they arise from the aortic bifurcation.
- Short and voluminous, they end by dividing into the internal and external iliac arteries near the sacroiliac joint.

Pelvic arterial axes





1- Abdominal aorta
2- Left common iliac artery
3- Iliolumbar artery
4- Superior lateral sacral artery
5- Inferior sacral artery
6- Suprapiriform foramen
7- Superior gluteal artery
8- Piriformis muscle
9- Infrapiriform foramen
10- Sacrospinous ligament
11- Inferior gluteal artery
12- Pudendal artery
13- Ischial spine
14- Sacrotuberous ligament
15- Obturator canal
16- Femoral artery
17- Middle rectal artery
18- Long vaginal artery
19- Uterine artery
20- Genitovesical artery
21- Umbilical artery
22- Obturar artery
23- Posterior trunk
24- External iliac artery
25- Inguinal ligament
26- Internal iliac artery
27- Posterior trunk
28- Right common iliac artery

❖ Anatomical relations of the common iliac arteries:

The relationships of the right common iliac artery are as follows:

- **Anteriorly:** the lumbar sympathetic trunk,
- **Posteriorly:** the psoas muscle and the left common iliac vein,
- **Laterally:** the gonadal vessels and the ureter.

The relationships of the left common iliac artery are as follows:

- **Anteriorly:** the inferior mesenteric artery,
- **Posteriorly:** the left common iliac vein and the psoas major muscle,
- **Laterally:** the gonadal vessels and the ureter.

2. External iliac arteries :

- It serves as a transit artery to the lower limb and part of the abdominal wall.
- Two main collateral branches arise from it:
  - **The deep circumflex iliac artery,**
  - **The inferior epigastric artery :**
    - It is large, with a diameter of approximately 3 mm. It arises from the medial aspect of the external iliac artery.
    - It forms an arch as it courses medially and then ascends towards the umbilicus, following the medial border of the inguinal ring.
    - Accompanied by two veins, it runs along the posterior surface of the rectus abdominis muscle.
    - It penetrates the rectus abdominis and terminates in the umbilical region. Its collateral branches include muscular branches, the cremasteric artery in males, or the artery of the round ligament in females.

3. Internal iliac arteries :

- It often originates at the level of the lumbosacral disc.

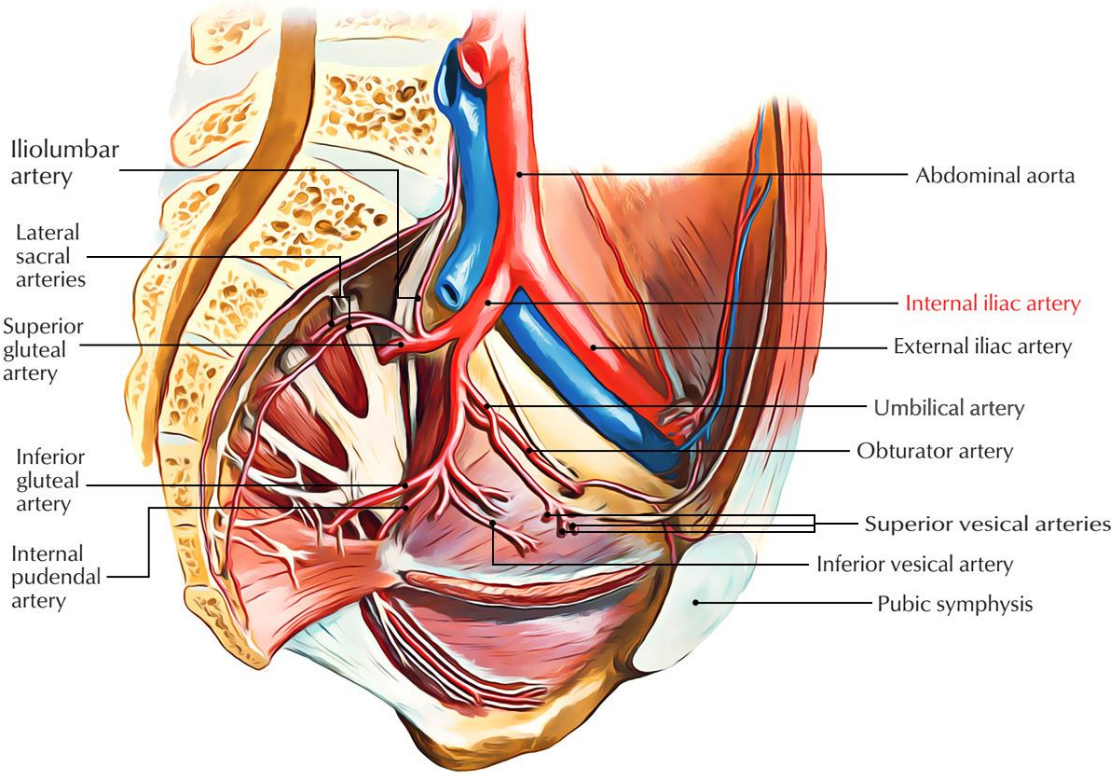
- It arises from the posteromedial division of the common iliac arteries and serves as the main artery of the pelvis, supplying both the pelvic wall and its contents.

- It descends vertically along the pelvic wall, accompanied by the interiliac and internal iliac lymph nodes.

- Its anatomical relations are as follows:

  - **Posteriorly**: the sacrum and the sacroiliac joint
  - **Laterally**: the psoas major muscle and the external iliac vein
  - **Medially**: the terminal part of the ileum on the right side
  - **Anteriorly**: the ureter.

❖ Terminal branches of the internal iliac artery :



Branches of the internal iliac artery

The terminal branches of the internal iliac artery divide at the level of the greater sciatic notch into two trunks: an anterior trunk and a posterior trunk.

The obturator artery:

- It is a branch of the anterior trunk of the internal iliac artery. It descends forward towards the obturator canal, where it is applied to the obturator muscle, with the obturator nerve running above it and the obturator vein running below it.
- It gives muscular branches to the psoas, a vesical branch, and a retro-pubic branch.
  It also gives a vesical branch and an anastomotic branch with the inferior epigastric artery.
- The terminal branches of the obturator artery descend forward towards the obturator canal, dividing into two branches:
  - The anterior branch runs along the anterior border of the obturator foramen.
  - The posterior branch follows the posterior border of the obturator foramen.

The umbilical artery:

- It is a branch of the anterior trunk of the internal iliac artery.
- It is the first visceral branch of the internal iliac artery, descending to run along the lateral surface of the bladder.
- It gives off 2 to 5 vesical arteries.

The middle rectal artery:

It arises from the internal iliac artery. Its primary distribution is more genital than rectal.

The internal pudendal artery:

It arises from the internal iliac artery and is responsible for supplying blood to the perineum, external genitalia, and certain muscles of the pelvic floor.

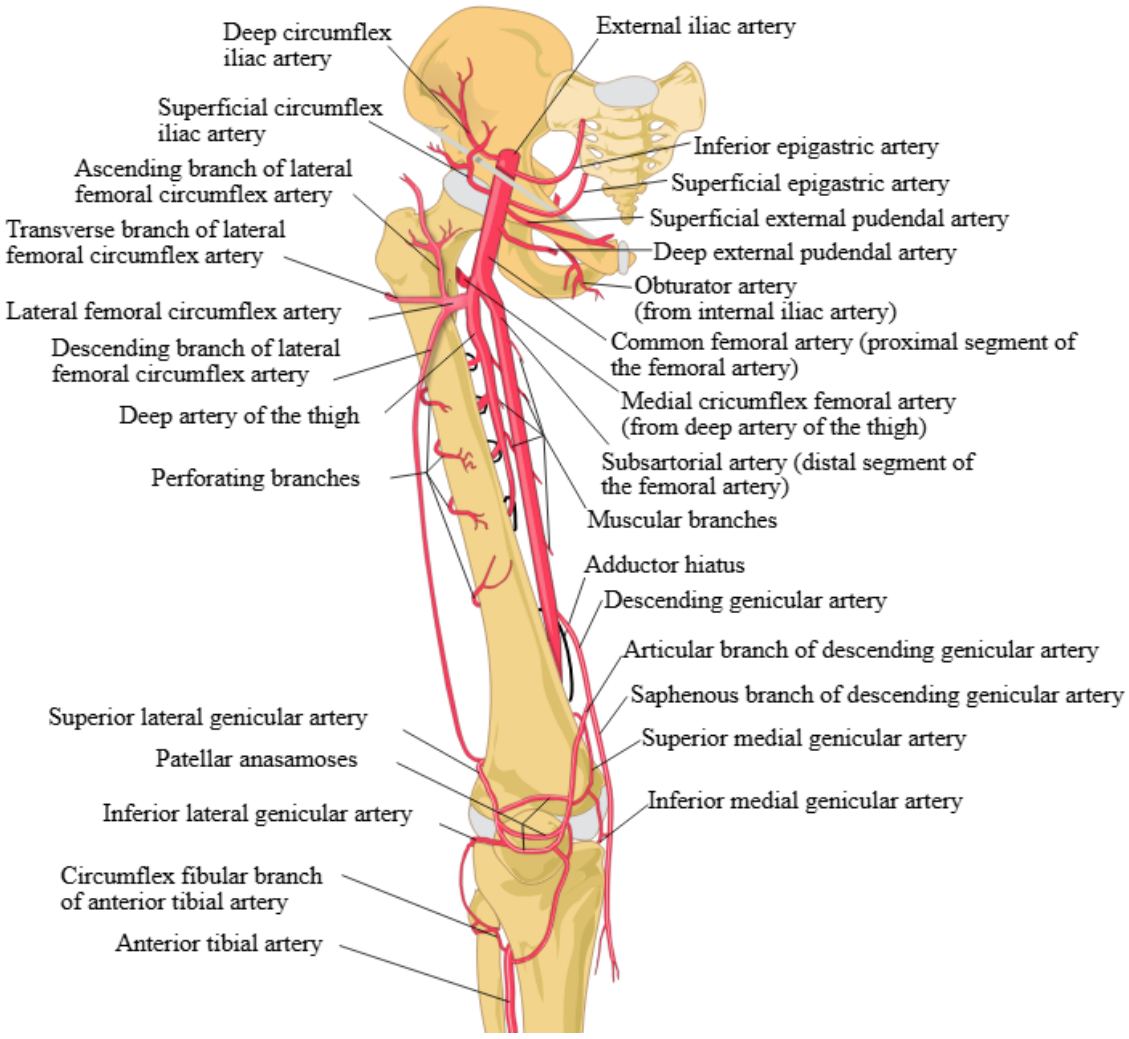
- **Course :**

- The internal pudendal artery passes through the pelvis, descending vertically. It then traverses the infrapiriform foramen and exits the pelvis between the sciatic nerve and the pudendal nerve.
- It is accompanied medially by the pudendal nerve and the inferior gluteal vessels, and laterally by the sciatic nerve.
- It then passes behind the transverse ligament and terminates in:
    - The deep artery of the penis or clitoris.
    - The dorsal artery of the penis or clitoris.

- **Collateral branches :**

    - The urethral artery,
    - The inferior rectal artery,
    - The perineal artery,
    - The inferior gluteal artery, which supplies the gluteal and posterior femoral regions,

- The artery of the ductus deferens, which arises from the umbilical artery and accompanies the ductus deferens,
- The posterior trunk of the internal iliac artery gives rise to the iliolumbar artery and the superior gluteal artery.



Branches of the internal pudendal artery

III – CONCLUSION:

The iliac arteries are key conduits for blood flow to the pelvis and lower limbs. Their branching patterns and anatomical variations must be well understood to prevent complications during surgical procedures or interventional radiology. Given their central role in lower limb perfusion and pelvic organ vascularisation, the iliac arteries remain a critical focus in both anatomical education and clinical practice.