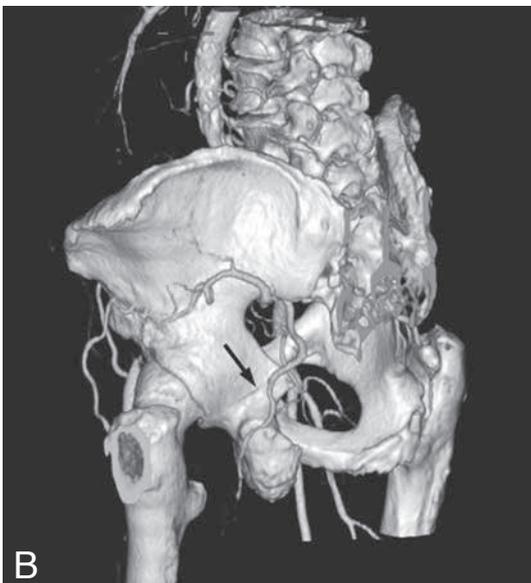


## IMAGES IN CLINICAL RADIOLOGY



### *Aplasia of the left external iliac artery and persistant sciatic artery*

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An 82-year-old man complaining about paresthesia in both thighs had a pathologic Doppler ultrasound, with monophasic waveform and reduced velocity in the left common femoral artery. Downstream left segment and in the right lower limb the flow was triphasic. There was no evidence for atherosclerotic disease. He was referred to perform an angiography-CT scan. Arterial phase contrast-enhanced MDCT with multiplanar reformation (MPR) and 3-D surface-rendered image showed an absence of the left external iliac artery in front of the left external iliac vein (Fig. A). The left common femoral artery is correctly opacified, reconstituted from a persistant sciatic artery (Fig. B) (suggested by an abnormal artery running posterior to the pelvis), a left obturator artery (Fig. C, arrowhead), an ilio-lumbar artery (Fig. C, arrow).

#### *Comment*

Congenital anomalies of the iliac and femoral vessels are rare and usually discovered incidentally. Most reported cases have been iliofemoral aplasia associated with persistent sciatic artery (PSA) or atresia with residual cord. Isolated agenesis of the external iliac artery is extremely rare. Greebe described only 6 cases of iliofemoral anomalies in a series of about 8000 patients who underwent angiography of the pelvic arteries. In the early embryonic stage, the sciatic artery is the major blood supply for the lower limb bulb and is later replaced by the iliofemoral artery when the limb grows up. If the sciatic artery fails to regress, sometimes associated with femoral arterial hypoplasia, it becomes the dominant inflow to the lower extremity. There are two different presentations for the PSA. The first presentation is the complete PSA (63-79% of the cases), where this artery is the major blood supply to the lower limb, and the superficial femoral system is hypoplastic. The second presentation is the incomplete PSA (about 20% of the cases), where PSA is hypoplastic and communicates via collateral vessels with the femoral artery.

In our patient we are in the second case, with an incomplete PSA and few other vessels by-passing the left external iliac agenesis. In our present case we made the discovery by chance. Patient's symptoms were explained by a narrowing of the lumbar vertebral canal.

Although the PSA is frequently asymptomatic, there is a high prevalence of atherosclerosis, aneurysm and vessel thrombosis causing lower extremity ischemia. The incidence of aneurysm formation in a PSA has been estimated from 25-58%. Furthermore, PSA can be inadvertently disrupted by abdominal surgery.

#### *Reference*

1. Szejnfeld D., et al.: Angioplasty of a persistent sciatic artery: case report. *J Vasc Bras*, 2011, 10: 168-172.

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