

The vital role of Riolan's arcade as a mesenteric collateral vessel on lower extremity perfusion

Mezenterik bir kollateral olarak Riolan Arkının alt ekstremite perfüzyonundaki hayati rolü

To the Editor,

Riolan's arch represents a rare artery, connecting the superior and inferior mesenteric artery (SMA, IMA) (1).

A 73-year-old male, with a 10-year history of peripheral arterial disease, presented to our department with a claudication of 20 meters on the left lower extremity. On the computed tomographic angiography, bilateral common iliac artery occlusion and arcade of Riolan (AR), due to the atherosclerotic occlusion of the IMA, were observed (Figs. 1, 2). Bilateral internal and external arteries were perfused via multiple collateral vessels originating from the pelvic anastomoses, supplied by the AR. On the distal orifice of Hunter's canal, the left superficial femoral artery was filled by collateral vessels originating from the deep femoral artery (Fig. 3).

The importance of the AR as a vital collateral vessel between the SMA and IMA, helping to prevent gastrointestinal tract ischemia, especially in the event of atherosclerotic occlusion of either of these two arterial systems, has been noted in many articles (1). The superior rectal arteries were also connected by collateral vessels with the middle and inferior rectal arteries, which originate from the internal iliac arteries (2). Therefore, the AR plays a great role in the perfusion of the internal iliac artery with these anastomoses, sustaining the IMA circulation. In this case, the left deep femoral artery, supplying the superficial femoral artery, was perfused by the collateral vessels originating from the internal iliac artery and the pelvic anastomoses. Therefore, we consider that the AR has an important role in the perfusion of the left lower extremity.

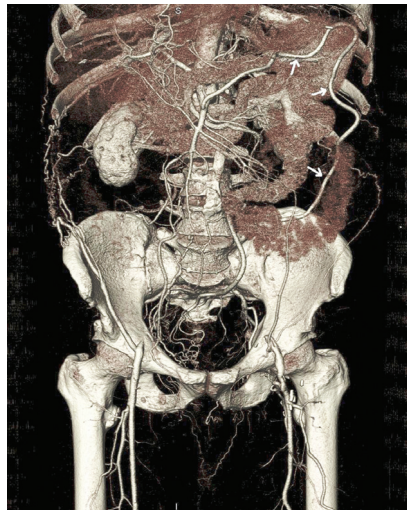


Figure 1. The arcade of Riolan, reconstructive colored image.

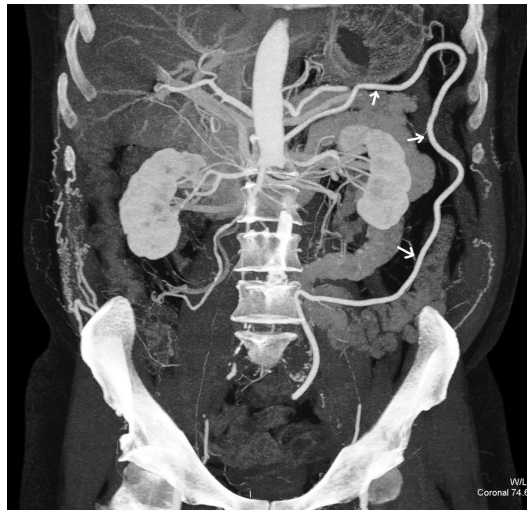


Figure 2. The arcade of Riolan, reconstructive contrast image.

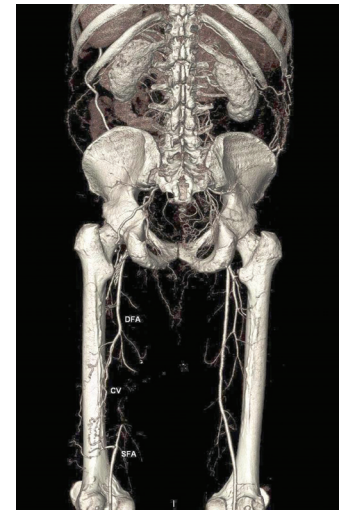


Figure 3. Left superficial femoral artery supplied by the collateral vessels originating from the deep femoral artery. (DFA: Deep femoral artery. SFA: Superficial femoral artery. CV: Collateral vessel).

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