Axillo-femoral and femoro-femoral graft to bypass aorto-iliac occlusion. How is it possible for the latter to be patent if the former occludes?

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INTRODUCTION

A 70-year old male patient underwent left axillo-femoral bypass and retroperitoneal femoro-femoral bypass (via the femoral canals, posterior to the rectus muscles and anterior to the bladder) due to aorto-iliac occlusion presenting with critical left limb ischemia and right limb claudication. An aorto-bifemoral bypass was not selected for this patient due to severe comorbidities. Post-procedurally symptoms resolved bilaterally. During follow-up, bilateral recurrence of claudication was reported, notably without rest-pain. The CT angiography indicated that the axillo-femoral bypass had occluded, but the femoro-femoral bypass was preserved via an extensive collateral network from developed epigastric arteries, that produced reverse graft flow (right→left as noted with Duplex) and preserved hemodynamic improvement of the recipient limb. The collateral network was already present before the operation. Patent collaterals are not likely to have influenced patency of the axillo-femoral component, since they were mostly present on the contralateral (right) side. This case highlights the significance of collateral circulation to preserve arterial perfusion of the lower limbs and even maintaining patency of a synthetic graft in extreme cases.

Figure 1.

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