

Internal iliac artery revascularization to save above the knee stump : case report

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Introduction

Approximately 185000 major amputations (MA) are performed every year in the United States.¹ MA is an option to treat patients with chronic limb-threatening ischemia (CLTI). The goals are the relief of ischemic pain, removal of all diseased or necrotic tissue, preservation of ambulation and limitation of interventions number.²

The most common complication of MA is infection. Local infection often leads to scar dehiscence. When promoted by stump ischemia, it has to be treated like CLTI. The revascularization techniques are based on 3 points: patient risk, limb severity and anatomical complexity.³

We report the case of above the knee stump wound promoted by ischemia and treated by atypical revascularization.

Case report

A 46-year-old man presented to the emergency department with CLTI. He had dry necrosis on his third toe and rest pain on left foot. He had significant medical past-history: smoking habit, both limbs deep venous thrombosis with pulmonary embolism, ophthalmic stroke, left common femoral artery endarterectomy with left common iliac artery stenting, left ilio-femoro-popliteal arterial thrombectomy and femoro-femoral prosthetic arterial bypass from right to left.

Femoro-posterior tibial venous bypass was performed. Within 24 hours it was thrombosed. In 3 days, the patient came back 3 times to the operating room to try unsuccessfully to maintain the bypass patent (mechanical thrombectomy, thrombolysis, anastomosis refection). Unfortunately it was not possible. Worse the left common femoral artery and the femoro-femoral bypass thrombosed. He had above the knee amputation 8 days after the femoro-posterior tibial bypass. He developed stump necrosis and infection. Debridements and negative pressure treatment were undertaken. The stump didn't heal. Computed tomography angiography revealed a patent left internal iliac artery. The left common and external iliac arteries were occluded, as well as the femoro-femoral bypass and the left common femoral artery.

2 months after the femoro-posterior tibial bypass, under general anesthesia, 6F sheath was introduced into the left brachial artery. After recanalization, 2 uncovered balloon-mounted stents were deployed in the left common iliac artery. External iliac and common femoral arteries were left occluded because of the heavy previous history. The blood flow to the internal iliac artery was restored. After new debridements and negative pressure treatment, the stump wound could heal completely within a few weeks. 4 months after the amputation, the stump was still healthy.

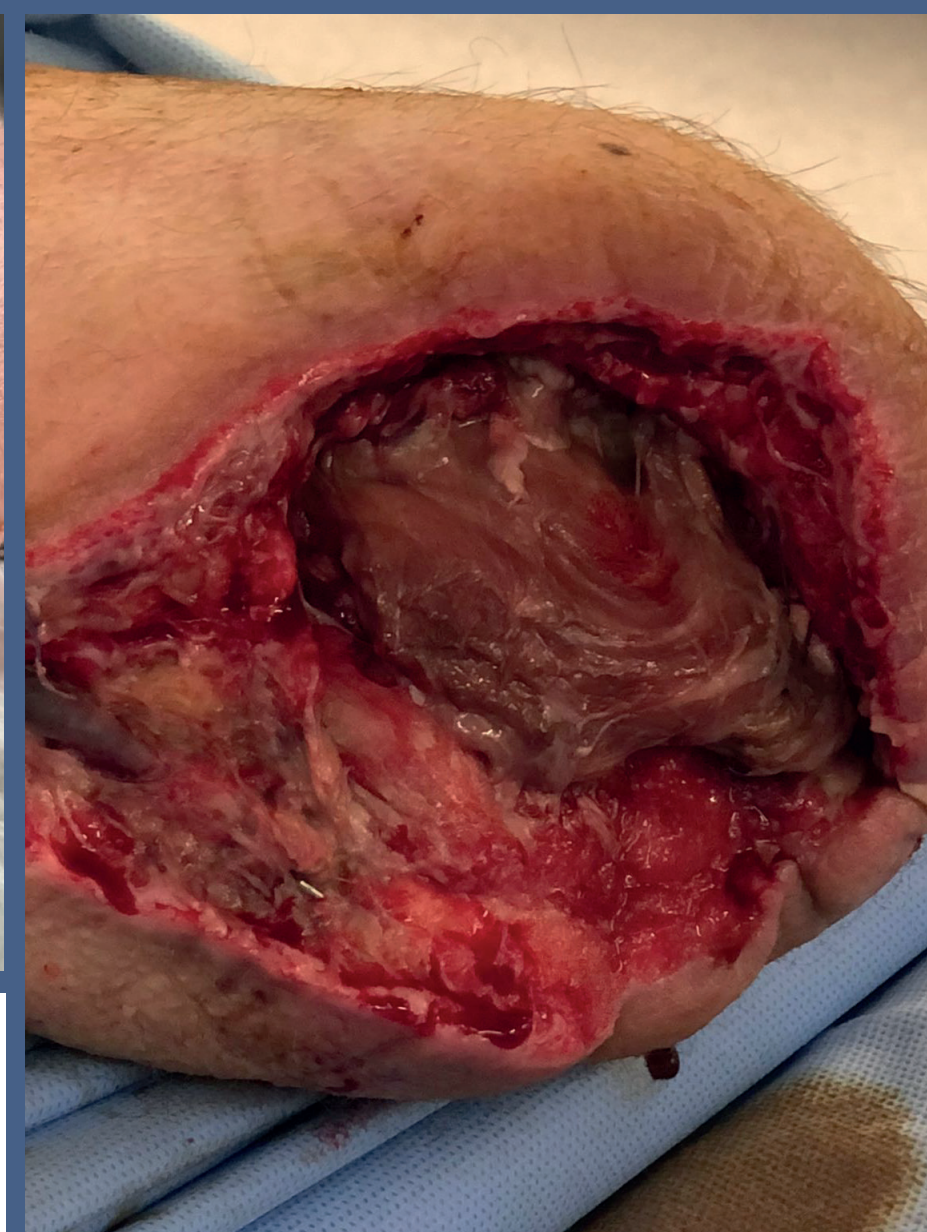
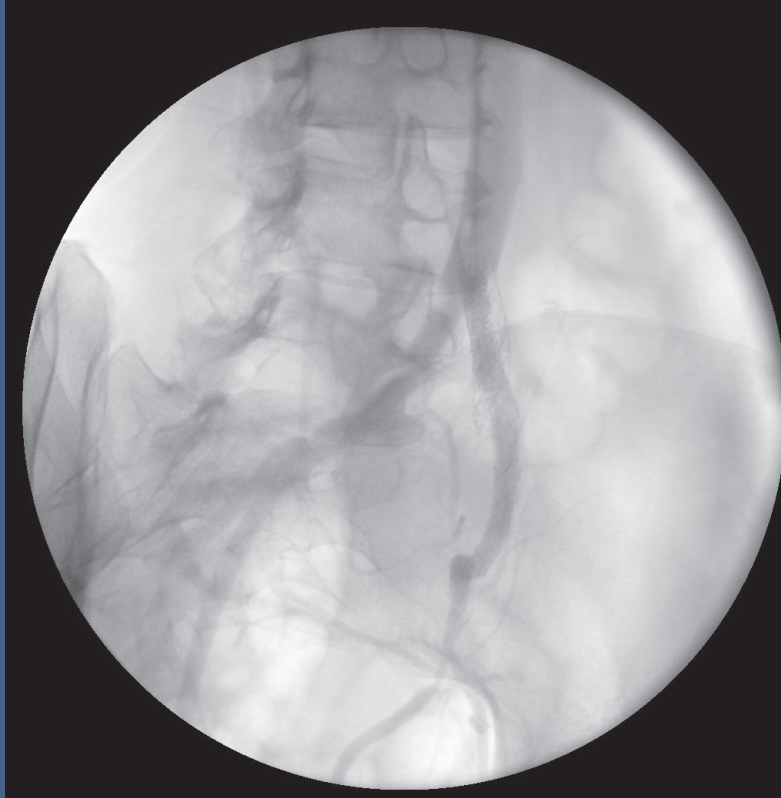
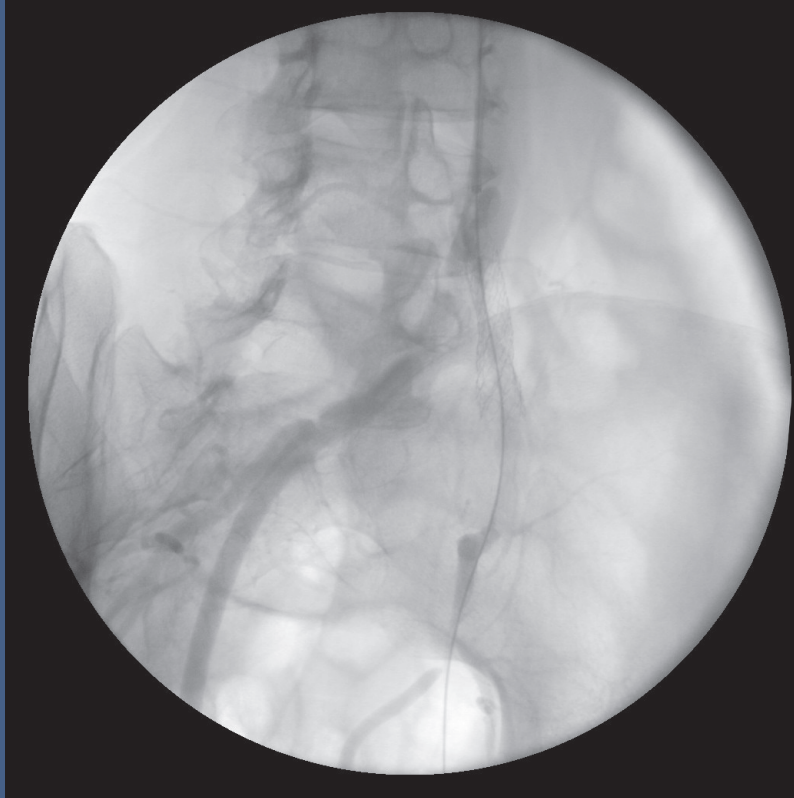
Conclusion

Direct revascularization is the gold standard to improve wound healing in patients with CLTI.⁴ It cannot always be performed, as for our reported case. Indirect endovascular revascularization via collaterals give superior healing results even in highly comorbid patients.⁴

Our case report shows that percutaneous recanalization of the common iliac artery to increase the inflow into the left lower limb through the internal iliac artery can be helpful to ensure healing of a wound stump.

pre treatment

post treatment



References

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