Background

When arterial ulcers are refractory to conservative wound treatment in diabetics there is the need for a larger area of vital tissue to obtain a normal function of the foot after extensive debridement procedures. This paper is to demonstrate that limb salvage by distal arterial bypass and free tissue transfer is not only feasible but highly effective and provides excellent long-term results.

Methods

During three years, 24 patients were treated by distal revascularization in combination with distal free flap. In every case a nutrient free flap without peripheral arterial reconstruction was not possible.

Results

Except for one patient all arterial reconstructions were done with the autologous long saphenous vein. There were five different flaps, the fasciocutaneous radial forearm flap (10), the latissimus dorsi muscle free flap with split thickness skin graft (7), the corresponding rectus abdominis muscle free flap (3), the nutrient omentum free flap (2) and the gracilis muscle free flap (2).

Except for three cases healing of the wounds could be achieved with good functional results and mobility. In three cases critical perfusion of the free flap during the early postoperative follow-up (14 days) resulted in necrosis of the flap and total loss of the tissue. Mortality was 1/24 (4%) with a lethal respiratory insufficiency due to pneumonia.

Conclusion

The combination of free flaps with autologous vein grafts, alone or sequentially, is an excellent modality to treat chronic wounds and large tissue defects with compromised nutrition. Treatment is ideal for diabetic patients with severe chronical wounds.