Journal of Plastic, Reconstructive & Aesthetic Surgery (2006) **59**, 1463–1466

JPRAS
An International Journal of Surgical Reconstruction
www.JPRASurg.com

CASE REPORTS

Three episodes of gracilis free muscle transfer under epidural anaesthesia

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Received 4 April 2005; accepted 6 December 2005

KEYWORDS
Gracilis free flap transfer;
Regional anaesthesia;
Epidural anaesthesia

Summary The use of regional anaesthesia in major surgery is associated with a lower risk of complications. However, recent evidence suggests that a vascular steal phenomenon may result in a reduction of free flap blood flow in such patients. We report three cases of free gracilis transfer under epidural anaesthesia in patients who were considered high risk for general anaesthesia.

Our experience suggests that there remains an important role for epidural anaesthesia in the management of patients undergoing lower limb free flap reconstruction. The inability to undergo general anaesthesia does not preclude free flap surgery in carefully selected patients.

We report three episodes in two patients of free gracilis transfer under epidural anaesthesia alone. Both patients were considered high risk for general anaesthesia.

Two of the flaps were performed in the same patient. This previously fit and well 45-year-old woman was admitted with a severe community-acquired pneumonia resulting in type two respiratory failure and sepsis syndrome. She required intubation and ventilation in the intensive care unit. She subsequently developed ARDS and her clinical condition necessitated the use of ionotropes to maintain central perfusion pressure.

Four days after ICU admission she suddenly developed ischaemic hands and feet. This was presumed secondary to ionotropes. At this point she was too unstable to undergo surgical treatment. She made slow but steady recovery and was discharged to the ward after 22 days in ICU.

After appropriate counselling she underwent debridement and terminalisation of the fingers at midproximal phalangeal level and of the left thumb through the interphalangeal joints. This was performed under regional block as her respiratory functions precluded general anaesthesia.

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1748-6815/$ - see front matter
doi:10.1016/j.bjps.2005.12.021

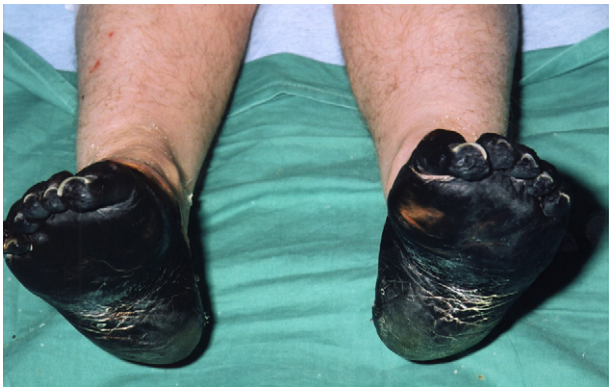

Figure 1 Ischeamic gangrene of the foot (Plantar view).

She made an uneventful postoperative recovery. She refused to consider bilateral below knee amputation and subsequently underwent amputation of her forefoot; free gracilis transfer and split skin grafting under spinal/epidural anaesthesia. The flap warm ischaemia time was 35 min. End to end anastomosis was performed to the posterior tibial artery. Epidural analgesia was continued for 24 h.

Three weeks later she underwent amputation of the right forefoot at the level of the cuneiforms. The resulting defect was also repaired with a free gracilis flap and split skin grafting. Flap warm ischaemia time was again 35 min. There were no significant postoperative complications and she has stable fully healed stumps.

The second patient was a 64-year-old gentleman with a long history of diabetes mellitus and ischaemic heart disease leading to symptomatic right heart failure. He presented with acute on chronic osteomyelitis of the left tibia with overlying soft tissue sepsis. He underwent initial debridement under regional anaesthesia. After consultation with the anaesthetic team he elected to undergo debridement and extirpation under epidural anaesthesia. The resulting defect was reconstructed with a free gracilis flap and split skin graft.

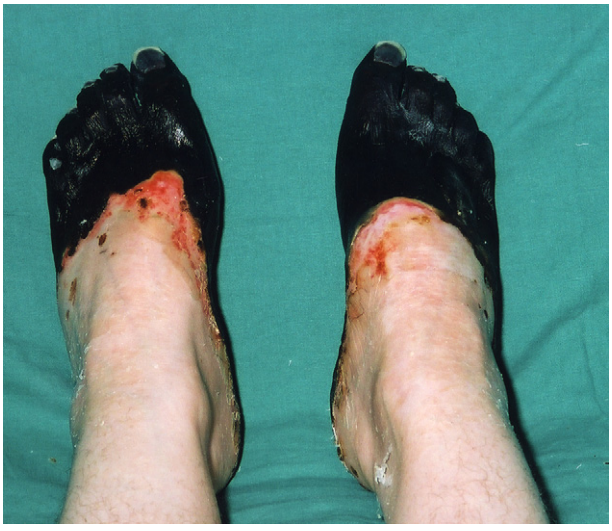

Figure 2 Ischaemic gangrene of the foot (dorsal view).

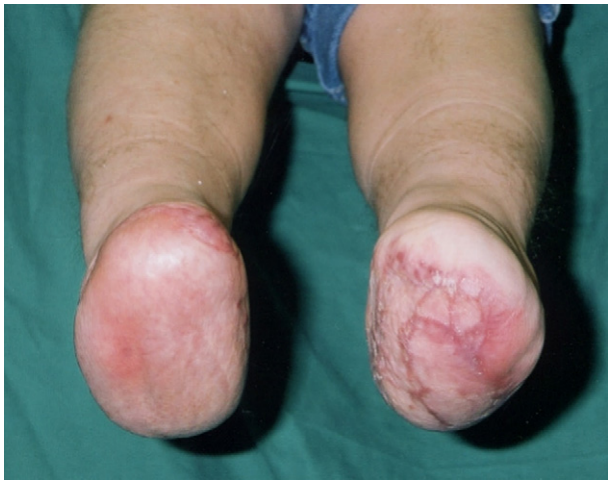

Figure 3 Patient A—Healed gracilis flaps.

Figure 4 Patient A—mobile with a zimmer frame.