

Spare Parts Surgery

Dzintars Ozols

Centre of Plastic and Reconstructive Microsurgery of Latvia

Introduction. Spare parts surgery is well-described in the plastic surgery literature. In the setting of trauma, otherwise discarded parts can be utilized for reconstruction resulting in a superior functional and aesthetic outcome for the patient.

Material and methods. Knee joint salvage with foot fillet flap (osteocutaneous) after train injuries for 4 patients, one crossarm transplantation for bilateral train injury and one lower leg replantation for use as flap donor to cover defects after train accident were completed in Microsurgical centre of Latvia during the period between 2007–2012. Parts of foot with calcaneus bone were replanted for salvage of knee joint for 4 patients. Foot fillet flap and part of calcaneus bone were replanted to the tibia, anterior or posterior tibial artery was sutured to popliteal artery end-to-side, tibial nerve was sutured and osteosynthesis was done. Cross arm replantation was done for a 26 year-old patient who had train injury. Left hand was transplanted to right forearm in mirror shape. Short-time lower leg replantation for use as flap donor was done for a 34 year-old man who had train injury. Left leg was amputated in groin region, the leg was damaged till the middle of lower leg, the patient had a heel defect in the opposite leg. Emergency short-time replantation was done, part of a left lower leg was replanted to a right leg, posterior tibial artery and both concomitant veins were sutured end to end. 35 days later replanted leg was divided in two flaps: innervated calcaneus flap for cover of a right heel defect based on posterior tibial artery and fillet flap for cover left groin region based on anterior tibial artery.

Results. All flaps survived, all knee joints were saved and got good articulations, and patients could walk using prosthesis. Cross hand replant got good sensation and good grasp, thus he used hand more than left prosthetic hand.

Conclusion. Train injuries are quite common in Latvia and very hard to manage as patients usually have shock, all extremities had severely damaged tissues. It is very important to evaluate amputated segment, and usually a replantable part can be found, but as these patients are critically ill, a doctor has to work and think very fast therefore short-time replantation can be done.