

**Aim of the study.** To compare outcomes of fingers' reconstruction using free arterialized venous flap (AVF), superficial palmar branch of radial artery flap (SUPBRA), dorsal radial perforator flap (DRAP), and dorsal ulnar perforator flap (DUAP) harvested from ipsilateral extremity.

**Materials and methods.** During 6 months were performed 4 types of free flaps from the ipsilateral extremity in reconstruction of fingers' defects, with small/moderate skin defects, including: 1 AVF, 3 SUPBRAs, 1 DRAP, and 1 DUAP. Standardized assessment of outcomes was performed, including duration of operation, objective sensory recovery, cold intolerance, time of returning to work, active total range of motion (ROM) of injured fingers, and cosmetic appearance of donor/recipient sites.

**Results.** All flaps survived completely, follow-up duration was 12 months. Mean duration of complete surgical procedure for AVFs was distinctly shorter than for others. SUPBRA was used to reconstruct skin and extensor tendon defects using vascularized palmaris longus graft in 1 case. Optimal sensory recovery was better in AVFs and SUPBRAs as compared in DUAPs and DRAPs. No significant differences were noted in ROM or cold intolerance between 4 types. Optimal cosmetic satisfaction was noted for recipient sites of AVFs and donor sites of SUPBRAs.

**Conclusions.** All 4 types of free flaps are a practical choice in finger reconstruction for small/moderate-sized skin defects. SUPBRAs play an important role due to wider indications, better sensory recovery and cosmetic appearance associated with this method.

**Key words:** fingers, reconstruction, free flaps.

#### 104. EFFECTS OF VENOUS SUPERDRAINAGE AND ARTERIAL SUPERCHARGING ON ARTERIALIZED VENOUS FLAP IN A RAT MODEL

Author: **Olesea Catărău**

Co-author: Maxim Melenciuc

Scientific adviser: Anatolie Calistru, Associate Professor, MD, Head of Republican Center of Reconstructive Microsurgery, Institute of Emergency Medicine, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

**Introduction.** Despite that various experimental patterns of venous flaps have been proposed, no single pattern have gained widespread acceptance.

**Aim of the study.** To evaluate the effects and survival rate of venous superdrainage and arterial supercharging on arterialized venous flaps (AVFs) in rat models.

**Materials and methods.** Experimental study. In a group of 24 white rats was used the arterialized venous epigastric flap according to the model of E. Vaubel and J. Hußmann. Vascular ends were isolated over 1.5 cm proximally. For arterialization of the venous bed of the epigastric flap, an end-to-end anastomosis was performed between the proximal end of femoral artery and the distal end of femoral vein. Venous outflow was performed along the branches of the venous anastomoses of the superficial epigastric vein and the lateral thoracic vein. The lot was divided in 4 groups (n=6): I - venous flap non-arterialized, II - arterialized venous flap (AVf) with arterial supercharging, III - AVf with adequate arterial perfusion, IV - AVf with venous super drainage. Clinical state was assessed by flaps color, capillary response, edema.

**Results.** 7 days postoperatively, venous flaps without arterial perfusion and venous flaps with arterial supercharging have necrotized in 100%, flaps with a ratio of leading and discharging

vessels 1:1 were grafted in 16,6% with partial necrosis. Non-free venous arterialized flaps with venous superdrainage (1:2 ratio) survived in 100% of cases, with partial necrosis in 50%.

**Conclusions.** The most optimal connection option for survival of the arterialized flap is the pattern described for group IV– with venous super drainage (ratio of 1: 2 or more), with acceptable survival and failure rate.

**Key words:** arterialized venous flap, venous superdrainage, arterial supercharging, white rats.

## 105. NEW PERSPECTIVE IN MANAGEMENT OF ACUTE LIMB ISCHEMIA

Author: **Diana Raileanu**

Scientific advisers: Castravet Andrei, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

**Introduction.** Acute limb ischemia is defined as a sudden decrease in arterial perfusion of the limb, with a potential threat to the survival of the limb, requiring urgent evaluation and management. Acute limb ischemia is considered when the symptom duration is less than two weeks. The most common causes of ALI are embolism, thrombosis of native arteries or reconstructions, peripheral arterial aneurysm, dissection, and traumatic arterial injury. In Europe, acute limb ischemia caused by native artery thrombosis or embolization into an atherosclerotic vascular bed has increased in incidence, which has important implications for treatment. In Republic of Moldova, the arterial thromboembolism rest the most common cause of acute limb ischemia. Validation of charts revealed three distinct categories of ALI: lower limb arterial thrombo-embolism; acute exacerbation of chronic limb ischemia; and iatrogenic ALI after revascularization procedures. The clinical presentation of ALI depends on the location and duration of the arterial occlusion, the presence of collateral circulation, and the metabolic changes related to tissue ischemia. Digital subtraction angiography, computed tomography angiography, duplex ultrasound an contrast enhanced magnetic resonance angiography can all be considered for imaging in patients with ALI . Computed tomography angiography is used most often because of its availability, and should be performed for treatment planning, unless the ischemia is too severe to allow time for additional imaging. Initial medical treatment of ALI includes appropriate analgesia and intravenous administration of unfractionated heparin, followed by infusion, dose adjusted to patient response. Patients with ALI should be treated by specialists in vascular and endovascular therapies. The treatment of acute limb ischemia are possible with open revascularization techniques (thrombo-emolectomy and bypass), Endovascular methods (thrombus aspiration, Endovascular mechanical thrombectomy), hybrid treatment and catheter-directed thrombolysis.

**Aim of the study.** The aim of study is to present the management of patients with acute limb ischemia at different level of healthcare services and the modern medical approach of treatments.

**Materials and methods..** This study is an literature review. For this execution was researched the last European and American guidelines and published studies between 2000 and 2019.

**Conclusions.** Only adequate revascularization, correctly chosen and applied as early as possible is the key to the treatment of acute limb ischemia. It is important that specialists of all fields, as well as patients from risk groups be properly informed.

**Key words:** acute ischemia, embolism, arterial thrombosis