

OFFICIAL TITLE OF THE STUDY: LVA2017

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PATIENTS

patients of both sexes, age over 18 years, affected by secondary lymphedema of the upper or lower limb due to the treatment of breast, uterine, prostatic cancer or melanoma or by primary lymphedema.

SURGERY

- map the lymphatic system using indocyanine green and the venous system with Accuvein,
- choose incision sites.
- premedication with Midazolam (0.02 mg/kg). Antibiotic prophylaxis, gastric protection and antiemetic drugs.
- perform local anesthesia with a mixture of 2% lidocaine and epinephrine at a dilution of 1:200,000. Since the intervention requires immobility, deep sedation is recommended to increase patient's comfort: Propofol (2 mg/kg/h) and Remifentanil (0.015 mcg/kg/min) may be used while maintaining spontaneous breathing. Oxygen is administrated at 4l/min via nasal cannula or Venturi's mask. Patients must be constantly monitored during the surgical procedure.
- perform multiple (range 3 - 5) 2 cm linear skin incisions. Carry out microscopic dissection in order to identify lymphatic vessels and venules. Prepare lymphatic vessels and suture to veins using 11-0 or 12-0 sutures.
- postoperative analgesia with acetaminophen (1 g every 8 hours) for the first 24 hours.

Patients are dismissed the day after surgery and receive oral antibiotic therapy for 6 days. Stitches are removed two weeks after surgery.

Patients are evaluated at 2 weeks, 1, 3, 6, 9, 12, 18, 24 and 36 months after surgery.

Immunohistological analysis.

- Fixation in 10% formalin and embedding in paraffin. Obtain 7 μ m thick serial sections.
- Prior to immunohistochemical labelling, rehydrate sections via xylene and ethanol.
- Perform the immunohistochemical labelling with IHC select immunoperoxidase detection System kit (Millipore) following the manufacturer's instructions. As a primary antibody use a lymphatic marker (for instance the monoclonal antibody D2-40, DAKO).
- reveal the reaction with Substrate Kit for Peroxidase (VECTOR).
- counterstain with Meyer's hematoxylin and view under light microscope.

Masson's trichrome staining

- Use Trichrome stain Masson kit following the manufacturer's instructions to evidence smooth muscle cells in the wall of collecting vessels.