

The vascularized bone allotransplantation after decellularization process, *in vivo* testing.

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Background. Massive bone defects require a multidisciplinary therapeutic tactic [1]. Bone transplantation is a successful approach, but insufficient in this case [2]. Decellularized vascular bone allograft included in the host circuit may be the solution [3].

Objective of the study. To test the *in vivo* intraoperative phase of the allografting of the vascularized femoral segment with the internal iliac artery in the domestic rabbit.

Material and Methods. The 5 New Zealand White Rabbit were used, weighing 2.6-3.0 kg. We have studied the possibility of bone allograft osteosynthesis and microsurgical anastomosis of the decellularized pedicle in the host circuit with the vascular pedicle (internal iliac artery). Being located between the upper part of the great trochanter and the distal 1/3 of the femoral shaft. The surgical technique was staged and recorded respecting vascular continuity. The procedure was divided into 2 stages: 1. Performing segmental osteotomy (2.5 cm long) of the femur and his osteosynthesis. 2 The preparation of the vascular pedicle to the internal iliac artery by medial approach for the microsurgical anastomosis of the decellularized pedicle.

Results. We documented and described the successful result of the double approach of the thigh, to repair the massive bone defects by the vascularized bone allotransplant after the decellularization mixt process.

Conclusion. The allografting of the vascularized femoral segment with the femoral and internal iliac artery after the decellularization process can be done by the lateral and medial approach of the thigh. It is a convenient one in the procedure of vascularized bone transplantation of the femur to a laboratory animal-New Zealand White Rabbit domestic rabbit.

Keywords: vascularized bone allograft, combined decellularization

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