

Materials and methods. Scientific papers and research results regarding bone defects reconstruction methods were reviewed.

Review. A vascularized bone graft, reclosed microsurgically in the circuit, has a good potential for regeneration, plasticity, and a post-graft mechanical stiffness. The vascular bone autograft, with all biological and mechanical characteristics is considered the "gold standard" in the treatment of small bone defects. However, it becomes insufficient in size, shape and cellular repair capacities in the case of massive bone defects due to the increased circulatory needs of the injured segment. Maintaining the osteoplastic properties of the vascularized autograft and combining them with the orthotopic characteristics of an allogene bone or bone segment would be a successful alternative for the reconstructive surgery of the locomotor. The dilemma imposed by vascularized composite allotransplantation (VCA), is immunosuppression (IS) and immunomodulation for life, which is not justified in case of vital organs (heart, liver, kidneys) transplants, because of adverse effects risk (systemic complications, sepsis, neoplasms). Without an IS, the immune cascade will cause vascular endothelial cell lysis, compromise microcirculation with necrosis of the graft. The last studies, describe the surgical neoangiogenesis typical of the host in VCA with a short-term IS - 14 days, as an effective one, with results that allow consolidation and mechanical stability. Studies are performed preclinically on rats, rabbits and pigs. Other studies present decelularization methods of the vessel while preserving vascular stiffness.

Conclusions. A perfect alternative in treatment of the massive bone defects is using a vascular allograft, without associated immunosuppression.

Key words: massive bone defects, reconstruction, allograft

185. INDICATIONS FOR USING PROPER TYPE OF PROSTHESIS IN ELDERLY PATIENTS WITH FEMORAL NECK FRACTURES

Author: **Daniel Prisneac**

Scientific adviser: Vitalie Chirila, MD, PhD, Associate professor, Department of Traumatology and Orthopedics

Nicolae Testemitanu State University of Medicine and Pharmacy of the Republic of Moldova

Introduction. Femoral neck fractures in the elderly are frequent due to the increase in life expectancy. These injuries represent a great health care problem and have a significant impact on health insurance costs. Hip replacement for this kind of fractures is a common and safe procedure, which will allow to mobilize patients shortly after surgery. Types of endoprosthesis used in elderly include unipolar, bipolar hemiarthroplasty, or total hip arthroplasty. Over $\frac{3}{4}$ of cases occur after the age of 60, with the main predisposing factor being osteoporosis, so a minor trauma involving an accidental fall is sufficient to produce a fracture. In young people, to produce such a fracture, a much stronger impact is required.

Aim of the study. Summarizing of indications and contraindication of using a certain type of prosthesis for the treatment of the femoral neck fractures in elderly patients.

Materials and methods. For the study were used the materials collected in the 2nd Department of the PMSI Clinical Hospital for Orthopedics and Traumatology during the 2012-2017 period, that included data of 464 elderly patients with femoral neck fracture. The main focus was: the Garden classification of the fracture, age of the patient, their general condition, osteoporosis and osteoarthritis degrees.

Results. In 2nd department were hospitalized patients with Garden III and IV type of the femoral neck fracture. Unipolar prosthesis was used in 171 cases (36.9%), only in patients over 80 years; bipolar hemiarthroplasty in 192 cases (41.5%), age variation was of 60 - 80 years; also a total hip arthroplasty was selected for 101 (21.6%) patients with advanced degrees of osteoarthritis. In our

study, unipolar hemiarthroplasty was used for the patients who are physiologically older with comorbidities. They were satisfied after surgery, being able to perform their daily activity. Advantages of monopolar and bipolar arthroplasties include short operation time and quick mobilization of the patient, which is very good to prevent complications. Disadvantages of unipolar and bipolar hemiarthroplasty is that they increase biomechanical stresses on the acetabulum with consecutive destruction of the acetabular fosa with developing of cotiloidites. The appearance of cotiloiditis may require surgical re-intervention and conversion to the total hip prosthesis. 85% were patients over 70 years of age, respectively the prostheses used were mostly bipolar and monopolar, but there were also those who required total prosthesis. Total hip replacement is advantageous for active, healthy, lucid patients, with a long life expectancy.

Conclusions. The discussions of using total hip arthroplasty vs monopolar or bipolar hemiarthroplasty are still open. Total hip replacement seems to be preferred for avoiding surgical re-intervention with possible patient risks and additional costs. Also these aspects should be evaluated to avoid the risks of prolonged and invasive surgical intervention occurring in total hip arthroplasty.

Key words: femoral neck fractures, prosthesis of the hip, arthroplasty

186. FRACTURES OF THE DISTAL HUMERUS, CLASSIFICATION, DIAGNOSIS, TREATMENT

Authors: **Nicolae Cojocari, Stefan Cojocari**

Scientific adviser: Ion Vacarciuc, MD, PhD, Associate professor, Department of Traumatology and Orthopedics

Nicolae Testemitanu State University of Medicine and Pharmacy of the Republic of Moldova

Introduction. Distal humerus fractures are associated with many problems like fracture comminution, osteoporotic bone and complex fracture anatomy. Majority of the distal humerus fractures (96%) have a complex pattern involving both the columns and the articular surface (AO type B and C injuries). Distal humerus fractures comprise 1–2% of all fractures in adults with a reported incidence of 5.7 per 100 000 per year.

Aim of the study. To evaluate the intermediate term results (follow up of two years) of distal humerus fractures according to data from medical records, implementation of AO classification (Arbeitsgemeinschaft für Osteosynthesefragen) and its codification, type of implant used in fracture fixation, specific parameters of elbow postsurgical treatment.

Materials and methods. We have proposed a study of patients with distal humerus fractures (DHF) which consecutively was treated in department of Hand Pathology with the application of microsurgical techniques (6 Section) of Traumatology and Orthopedics Clinical Hospital, Chisinau in the period 2016-2017. Final outcomes were determined by using Disabilities of Arm and Shoulder and Hand (DASH) score and the Mayo Elbow Performance (MEP) score calculated along with complete range of motion. All results were presented as mean \pm standard deviation (\pm SD).

Results. According to AO codification of DHF were determinate type A – 10, type B – 6, type C – 40 and in total were investigate 56 patients. The report between sex was 3:1 (42:14) with predomination of female gender. In three cases was achieved close reduction of FHD type A and fixation was obtained with k-wires. In rest patients were apply open reduction and internal fixation according to AO types of FDH in type A – 2 case was use k-wire an tension bands – and one case orthogonal plating; type B – lag screw in 2 cases and k-wires fixation in 4 cases; in type C was the main goal to obtain the triangular stability with restauration of three columns and were used k-wire an tension bands in 20 cases, orthogonal plating in 9 cases and at 11 cases parallel plating. All fractures healed, and radiographic union was observed at an average of 3 months.