

S4-P16**Stem Cells in the Wrist Instabilities. Experimental Study**

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Wrist joint instabilities are injuries associated with sprains, subluxations, dislocations, fractures, nonunion or osteoarticular diseases of carpal bones [Taqi, 2022]. There are different types of surgeries for treatment, one of option is arthrodesis [Ross, 2013]. It is a rescue surgery performed with the cost of some range of motion, but removing the pain and increase the strength of the hand [Buzu, 2014]. Our study was based on experimental research on 21 New Zealand rabbits and evaluation of benefits of stem cells using in wrist arthrodesis. For the initial stage, it was prepared demineralized bone grafts and bone marrow sampling. By tissue engineering was obtained osteo-cellular grafts (OCG) - allograft combined with isolated autologous stem cells. 3 study groups were formed, each by 7 laboratory animals. In the group A were performed standard arthrodesis of wrist joint, in the group B - arthrodesis with allograft, and in the group C - arthrodesis using OCG. In all cases the clinical and radiological evaluation was carried out immediate postoperative and at 4, 8 and 12 weeks. Computer tomography was done 12 weeks postop. Histological examinations also were studied. Our study showed that the arthrodesis of the wrist using the allograft have a good impact in the process of osteogenesis, but the best results were performed in the cases where it was used the allograft combined with autologous stem cells.