

OSTEO-CELLULAR GRAFT IN THE WRIST INSTABILITY. CLINICAL CASE.

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Background. The wrist or carpal instability means any disturbance of the static and dynamic balance of forces at the wrist under the conditions of daily living [Linscheid, 1972]. The cause of wrist instability in 95% is of post-traumatic origin, the most of cases are around scaphoid bone [Watson, 1984]. The instability of the wrist joint causes the deforming osteoarthritis of the joint which in turn leads to chronic pain and disability [Azócar, 2021]. Wrist arthrodesis is a procedure performed in advanced arthritis with painful movement in wrist joint [Chhabra, 2010]. This surgery is a rescue one, and is made in order to remove the pain syndrome and increase the strength of the hand [Gelberman, 2000]. Aim of study was presentation the clinical case of scaphoid pseudarthrosis with deforming osteoarthritis of the wrist joint treated by arthrodesis using osteo-cellular graft (OCG).

Material and methods. Anamnesis, clinical and paraclinical data were taken from the hospital patient record. Were analyzed the laboratory examinations, radiography and MRI of the wrist joint of the patient.

Results. A 39-year-old man suffered repetitive fall trauma in the left hand: first time it was about 20 years ago and was performed conservative treatment, but 6 years later the pains started to appear. After another trauma 5 years ago, it was diagnosed scaphoid pseudarthrosis, but it was neglected. Now the patient presented at the Clinical Hospital of Traumatology and Orthopedics with severe pain, limitation of movements and deformity of the left wrist joint, he was admitted to the Division of Hand Surgery. The patient's radiological images and MRI reports - Scaphoid pseudarthrosis of the left hand with 2nd degree deforming osteoarthritis of the wrist joint. Together with patient it was decided to perform surgical treatment – scaphoidectomy and arthrodesis using osteo-cellular graft (OCG). Before surgery, harvesting of autologous mesenchymal stem cells and enrichment by tissue-engineering was carried out, which were combined with demineralized allograft obtaining OCG. According to preoperative planning, scaphoidectomy and 4-corner arthrodesis (capitate-lunate and triquetrum-hamatum) using OCG was performed. Remote imaging and clinical examinations showed a satisfactory outcome. The patient completely got rid of pain and began to work again.

Conclusion. The use of osteo-cellular graft in arthrodesis of wrist instability is a safe method with good results, the clinical study of this topic is imperative and needs to be researched further.

Keywords: wrist instability, scaphoidectomy, arthrodesis, osteo-cellular graft (OCG).