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CLINICAL CHARACTERISTICS OF DELAYED FRACTURE CONSOLIDATION IN POST-COVID-19 PATIENTS

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Annotation

In the post-COVID-19 era, delayed consolidation of long tubular bone fractures has become a pressing issue due to lingering systemic inflammation, microvascular dysfunction, and disruptions in calcium-phosphorus metabolism and osteotropic cytokines, which negatively affect bone healing. This article provides scientific research information about clinical characteristics of delayed fracture consolidation in post-COVID-19 patients.

Keywords: bone healing, Post-COVID-19, patients, bone fractures.

Relevance:

In the post-COVID-19 era, delayed consolidation of long tubular bone fractures has become a pressing issue due to lingering systemic inflammation, microvascular dysfunction, and disruptions in calcium-phosphorus metabolism and osteotropic cytokines, which negatively affect bone healing. Recent advances in the study of molecular pathways involved in osteoinductive and angiogenic bone regeneration processes have facilitated the clinical application of growth factors and cell therapy in the treatment of nonunions and comminuted fractures. Although many studies have reported that the use of these factors correlated with an increased rate of bone healing, others have described low osteoinductive activity and a significant incidence of complications such as postoperative infections. Therefore, further studies are needed to clarify the clinical efficacy of these methods for patient recovery.

Purpose of the study:
To evaluate the clinical characteristics of delayed consolidation of long tubular bone fractures in patients who recovered from COVID-19.

Materials and Methods:
A total of 126 patients with long bone fractures and a history of COVID-19 (within 6 months) were studied at the Bukhara Regional Multidisciplinary Medical Center. Clinical, laboratory, and instrumental data were collected and processed using SPSS 22.0 and Statistica 10.0. Statistical significance was set at $p < 0.05$.

Research Results:
Young adults (18–44 years) constituted the majority (42.9%) of patients. Men were affected 1.93 times more than women. Comorbidities (especially cardiovascular, endocrine, and genitourinary) increased significantly with age. Overweight and obesity were more frequent in young and middle-aged groups. Most fractures resulted from domestic or street trauma. Femur fractures predominated (47.6%). Simple fractures (86.5%) were more common than complex ones. Supraperiosteal osteosynthesis was the most used surgical method (43.7%).

Conclusion:
Post-COVID-19 delayed fracture healing predominantly affects young men and is associated with a high rate of comorbidities and simple femur fractures. Optimizing surgical strategies and managing comorbid conditions are essential for improving outcomes.

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