

The Role of Multidetector Computed Tomography in Selecting the Tactics of Treatment According to Ilizarov and Evaluating its Results in Patients with Chronic Osteomyelitis of Leg Bones

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Abstract

72 patients with chronic osteomyelitis of leg bones were examined before and after treatment in the process of the study using the techniques of multidetector computed tomography (MSCT). All the patients were operated on using different options of transosseous osteosynthesis method with the Ilizarov fixator depending on the level, extension of osteomyelitic process, as well as on the presence of cavities, fistulas.

The data obtained evidence of the fact that the bone density in the zone of tibial condyles, especially in that of the lateral one, is significantly decreased before treatment for osteomyelitic process localization in the shaft. The bone density in the lesion focus on the diaphysis varied extremely: from increasing up to $1850,6 \pm 172,3$ HU to decreasing up to $745,8 \pm 64,1$. When inflammation localized in the distal leg third the bone density of the subchondral part reached $227,4 \pm 63,2$ HU. The density in the metaphysis zone was significantly lower, at the same time the values varied over a wide range ($40,9 \pm 19,2$ HU). After treatment the cortical plate was of homogenous structure free of resorption zones, the bone density in the shaft amounted to 1235 ± 47 HU, and it increased up to 115 ± 58 HU in the zone of condyles.

Key words: Computed Tomography, Chronic Osteomyelitis, Leg.

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