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## Ct Data Evaluation of Proximal Femur Malignant Tumors

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**Goal:** the second place of malignant bone tumors localization is proximal femur (about 15%). This is a most frequent zone for metastatic lesions (more than 25%). The main goal of this study is analyze of CT scans bone and soft tissue changing of patients with proximal femur malignant tumors for correct surgical planning and assessment of limb salvage surgery possibility.

**Materials and Methods:** researches of results CT images of 54 patients with malignant tumors of proximal femur have been conducted. Male were 32 (59,3 %) and female were 22 (40,7 %). Middle age was  $50,59 \pm 16,80$  years. Femur pathological fracture has been noted in 27 % of cases (15 patients). Studying axial CT scans was spent at 3 levels - a top of the trochanter major, a zone of a trochanter minor and a proximal diaphysial part.

Results: the basic data of CT images which have been studied, it is volume of tumor lesion of a femur, presence of soft tissue tumor component, the size and spread of soft tissue tumor component. 3 zones of soft tissue tumor lesion - one-zone (proximal, median and distal), two-zone (proximal and distal) and three-zone (total defeats) have been allocated. In a spread direction of an extrabone tumor component the forward-lateral type, back-lateral type, medial and circular types of tumors has been defined. As 4 levels of spread soft tissue tumor component - 1 level (0 %-10 % from hip volume), 2 level (11 %-20 % from hip volume), 3 level (21 %-30 % from hip volume) and 4 level (40 %> from hip volume) have been defined. According the basis of this data working classification of spread soft tissue tumor component of proximal femur has been created.

**Summary:** CT examination allows to do exact estimation of tumor process spreading to the bone. The developed classification gives the chance to define surgery volume on proximal femur tumor removal, to formulate correct indications for limb salvage surgery and to improve bone and soft tissue reconstruction techniques for proximal femur lesions.