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Biomarkers of malignant growth of cells used for osteosarcoma prediction assessment

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Introduction: Complex study of molecular-genetic path morphological and clinical characteristics of patients with osteosarcoma for early diagnostics, to increase the treatment efficacy and prophylaxes of early progression of osteosarcoma.

Methods: Assessment of immune marker characteristics of tumour cells of 212 patients with osteosarcoma was conducted. The results of reactions with antibodies to ki-67, bel-2, mtp-53 (mutant gene) localized in nuclear and mitochondrial matrix expressed in % with considering the amount of dyed cells in 100 patients.

Results: The results showed that expressive profile (molecular-genetic phenotype) mtp53+, bel-2-, Ki-67+ for 34, 9% (74/212) patients with osteosarcoma is predictive unfavourable factor of early metastasis (4-6 months) and appearance of early relapses (8 months), progression of tumour process (III and IV stages 60-80% patients), low degree of pathomorphizm (1 and 2), relative life interval of the patients (up to 3 years), it is connected with low degree of differentiation (G3 80-90% patients), increase the size of tumour to 550 cm3, with chondroblastic version of osteosarcoma.

Conclusion: It is necessary to consider these data in searching and dividing the groups of the most perspective molecular-genetic markers, which have predictive value in clinic while monitoring the treatment of patients with osteosarcoma.

The set of data allows to divide the groups of patients with high risk of unfovourable course of this disease during the examination at this stage. Thus, obviously the clinical medicine for introduction and enlargement of molecular-testing for effective decision making and the solution about creation of new strategy of molecular-directed therapy of patients with osteosarcoma simultaneously affecting on certain molecule and processes are needed. All of these significantly contribute to the improvement of molecular-genetic diagnostics in oncology.