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Novel metabolic targets for oncological patient's treatment

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The novel approaches such as novel metabolic targets to control cancer are always welcomed. The cell proliferation and angiogenesis are hall marks of tumor. The key enzymes of DNA metabolism: thymidine kinase (TK) and thymidine phosphorylase (TP) are associated with these features. This study aimed to the activity TK and TP in human gastric cancer (GC) and asses their prognostic relevance.

74 patients, 40-70 year old, with GC $T_{3-4}N_{0-x}M_{0-y}$ stages and 82 non-cancerous patients (control group) were included in this study. The researches of enzymes activity were examined by the radioisotope method and spectrophotometrically in blood serum. All patients were thoroughly informed about the study, which was approved by the local ethics committee.

The dynamics of TK and TP activity changes in the blood serum of patients with GC at pre- and post-operative periods was studied. They turned out to depend on the amount of tumor eradication, i.e., according to the type of surgical intervention. Thus, we registered the decrease of TK activity in case of radical surgery and it approached the norm (2,09±0,56 nmol/mg·h). TP activity increased to 38,33±1,95 nmol/mg·min, it also approached the norm. At the same period following palliative operations the TK activity on day 6 after the surgical intervention began to increase (a dangerous symptom) and up to the end of the second week it exceeded the initial (5,50±0,45 nmol/mg·h). The TP activity decreased returning to the initial values. The individual dynamics of cooperative activity of TK, TP may be useful as informative tool for treatment optimization.

Biography

Berta G. Borzenko has studied human tumor of different localizations for 30+ years. The disorders of DNA metabolism and their dependents by stage of the disease, age and sex of patients were investigated. During this time she has authored more than 280 peer-reviewed reports. She has published articles in international journals including EJC, *European Journal of Surgical Oncology, Experimental Oncology* and others. She has served on the editorial boards for the scientific journal of the Donetsk regional center of antitumor "Novoutvorennia" (*Neoplasm Research*). She is a Chair of the Regional Ukrainian Biochemical Society, a member of the Scientific Society of Pathophysiologists of Ukraine, member of Gerontology Society. She has received numerous decorations and awards for her work.

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How to determine induction therapy for ISS risk-tailored elderly patients with multiple myeloma: BD or traditional VAD regimen, multicenter experiences

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Background: Elderly patients with multiple myeloma (MM) are not usually candidates for intensive chemotherapy and stem cell transplantation. The purpose of the retrospective study was to compare the antitumor efficacy and safety profile of bortezomib plus dexamethasone (BD) as frontline induction therapy compared to vincristine, doxorubicin and dexamethasone (VAD) in elderly patients with untreated MM, diagnosed according to ISS risk-stratification.

Methods In the study: 128/303 patients received BD regimen, other 175/303 patients received VAD as induction therapy (age: 65-89 years). Eligible subjects were stratified by ISS staging, advanced age, elevated LDH, calcium and creatinine. Results BD therapy group had obvious advantage of overall rate comparing with VAD regimen (71.9% versus 58.3%, P=0.015). Meanwhile, BD cohort attained satisfactory 5-year PFS (28.4% versus 5.5%, P=0.011) and 5-year OS (26.9% versus 6.1%, P=0.0106) as patients in the VAD arm. Multivariate analysis showed that induction therapy, ISS staging, and advanced age (>70 years old) were independent predictors. Our data demonstrated that the advantage of bortezomib as induction protocol is independent of age, ISS stage risk or elevated LDH. The overall safety profiles of BD therapy reported in the total enrolled population appear to be similar in the patients that received VAD regimen.

Conclusion: In conclusion, the efficacy and safety data indicated that bortezomib plus dexamethasone had more substantial clinical activity and was tolerable to elderly patients with *de novo* MM even ISS stage 3.

Keywords: Multiple myeloma, Elderly, ISS Staging, Bortezomib.

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