

Abstract

Bladder cancer is the most common malignant neoplasm of the urogenital tract. Of non-invasive diagnostic methods in clinical practice normally only is used cytology to its limits. While there are several commercially available tests that have the character of a tumor marker. None of them, however, has not yet been recommended for the standard diagnosis or monitoring of patients with bladder cancer. Cathepsin B is a thiol – dependent protease found in normal circumstances in the lysosomes of mammalian cells. Cathepsin B are lysosomes involved in the degradation of proteins and has various functions in maintaining cell metabolism in normal conditions. The incidence of cathepsin B or its proteins and their high activity is described in a number of neoplastic diseases. About its importance for urological tumors has so far been only very few reports. Activity of the cathepsin B in patients with invasive bladder cancer were examined by determining its expression in tumor tissue and determining the concentrations of cathepsin B and pro-cathepsin B in their serum urine. Our results confirm that the diagnostic efficiency of the pro-cathepsin B urine urine is high. All so far published studies are focused on the investigation of biologically active proteins. Pro-cathepsin B is the biologically inactive molecule, which exhibits significant efficacy in the investigation of patients with carcinoma of the urinary bladder. From this point of view appears to be the results of our study as the original.

Keywords: bladder cancer, lysosomal enzymes, cathepsin B, pro-cathepsin B