Abstract

Beclin 1 plays a critical role in the regulation of autophagy, apoptosis, differentiation, as well as in the development and progression of cancer. The aim of this study was to examine the expression of beclin 1 and bcl-2 in bladder urothelial tumors, and to investigate the relationship between these two markers and clinicopathological parameters. Our study included 84 bladder urothelial tumors and 10 non-tumoral bladder tissues. Immunohistochemistry was performed on tissue microarray (TMA) sections and was evaluated semiquantitatively on the basis of the percentage of positively stained cells (proportion) and staining intensity. A significant association was found between the expression score of beclin 1 and pT stages of the urothelial tumors (p=0.012). Also, the level of beclin 1 expression inversely correlated with histological grade and pT stages (p=0.009, r=-0.284; p=0.001, r=-0.361, respectively). The bcl-2 expression level positively correlated with histological grade and pT stages of the urothelial tumors (p=0.026, r=0.243; p<0.0001, r=0.491, respectively). In addition, the level of beclin 1 expression tended to be inversely correlated with the bcl-2 expression level in urothelial tumors (p=0.055, r=-0.210). According to our data, down-regulation of beclin 1 expression and also bcl-2 overexpression seem to play an important role in the progression and aggressiveness of bladder urothelial tumors.