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Gastrointestinal tumours

185P Role of autophagy-related protein expression in patients with rectal cancer treated with neoadjuvant chemoradiotherapy

Y.H. Ko[1], D.S. Sun[1], H.S. Won[1], M.A. Lee[2], S.U. Hong[3], J.-H. Jung[4], H.-M. Cho[5], B. Shim[6]

[1]*Medical Oncology, Uijeongbu St. Mary's Hospital, Uijeongbu City, Republic of Korea*
[2]*Medical Oncology, Seoul St. Mary's Hospital, of the Catholic University, Seoul, Republic of Korea*
[3]*Pathology, Chung-Ang University Hospital, Seoul, Republic of Korea*
[4]*Pathology, St Vincent Hospital The Catholic University of Korea, Suwon, Republic of Korea*
[5]*Surgery, St Vincent Hospital The Catholic University of Korea, Suwon, Republic of Korea*
[6]*Medical Oncology, St Vincent Hospital The Catholic University of Korea, Suwon, Republic of Korea*

Aim/Background: Autophagy, a cellular degradation process, has complex roles in tumourigenesis and resistance to cancer treatment in humans. The aim of this study was to explore the expression levels of autophagy-related proteins in patients with rectal cancer and evaluate their clinical role in the neoadjuvant chemoradiotherapy setting.

Methods: All specimens evaluated were obtained from 101 patients with colorectal cancer who had undergone neoadjuvant chemoradiotherapy and curative surgery. The primary outcomes measured were the expression levels of two autophagy-related proteins (microtubule-associated protein 1 light chain 3 beta (LC3b) and beclin-1) by immunohistochemistry and their association with clinicopathological parameters and patient survival.

Results: Among the 101 patients, the frequency of high expression of beclin-1 was 31.7% (32/101) and that of LC3b was 46.5% (47/101). A pathologic complete response was inversely associated with LC3b expression (P = 0.003) and alterations in the expression of autophagy-related proteins (P = 0.046). In the multivariate analysis, however, autophagy-related protein expression did not show prognostic significance for relapse-free survival or overall survival.

Conclusions: High expression of autophagy-related proteins shows a strong negative association with the efficacy of neoadjuvant chemoradiotherapy in patients with rectal cancer. Autophagy has clear implications as a therapeutic target with which to improve the efficacy of neoadjuvant chemoradiotherapy.

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