

Absence of RKIP expression is an independent prognostic biomarker for gastric cancer patients

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Abstract:

Gastric cancer is a leading cause of cancer-related mortality, and the presence of lymph node metastasis an important prognostic factor. Downregulation of RKIP has been associated with tumor progression and metastasis in several types of neoplasms, being currently categorized as a metastasis suppressor gene. Our aim was to determine the expression levels of RKIP in gastric tissues and to evaluate its impact in the clinical outcome of gastric carcinoma patients. RKIP expression levels were studied by immunohistochemistry in a series of gastric tissues. Overall, we analysed 222 non-neoplastic gastric tissues, 152 primary tumors and 42 lymph node metastasis samples. We observed that RKIP was highly expressed in ~83% of non-neoplastic tissues (including normal tissue and metaplasia), was lost in ~56% of primary tumors and in ~90% of lymph node metastasis samples. Loss of RKIP expression was significantly associated with several markers of poor clinical outcome, including the presence of lymph node metastasis. Furthermore, the absence of RKIP protein constitutes an independent prognostic marker for these patients. In conclusion, RKIP expression is significantly lost during gastric carcinoma progression being almost absent in lymph node metastasis samples. Of note, we showed that the absence of RKIP expression is associated with poor outcome features of gastric cancer patients, this being also an independent prognostic marker.