

# The association of chitinase-like protein YKL-39 with locoregional and distant metastases in human colorectal cancer

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The association of chitinase-like protein YKL-39 with locoregional and distant metastases in human colorectal cancer  
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It is well known that the tumor-associated macrophages (TAM) are associated with better survival rates and negatively correlated with tumor progression in colorectal cancer (CRC). We have previously demonstrated the chitinase-like protein YKL-39 as a strong pro-angiogenic and monocyte attracting factor that was associated with worse response rates and metastatic spread in breast cancer patients after neoadjuvant chemotherapy (NAC). However, the association of YKL-39 with tumor progression in CRC has not been previously examined. Tumor samples from 44 CRC patients who received NAC, and 66 CRC patients who had undergone only surgery (without neoadjuvant treatment), were evaluated for an immunohistochemical analysis of YKL-39. We found that a low YKL-39 expression level was associated with regional node metastasis in both patient groups ( $P=0.03$  and  $P=0.027$ ; respectively). YKL-39 expression was negatively correlated with the number of lymph nodes with metastases in CRC patients without NAC ( $r = 0.89$ ,  $P = 0.02$ ). In addition, a low YKL-39 expression was associated with distant metastasis in this group patients ( $P=0.048$ ). Patients with a high YKL-39 expression tended to have an objective response to NAC (complete or partial response) ( $P=0.075$ ). These results indicated that YKL-39 expression level may be a potential prognostic marker in CRC patients.

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