Risk Factors of Synchronous Inguinal Lymph Nodes Metastasis for Lower Rectal Cancer Involving the Anal Canal

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Introduction: The aim of the study is to identify the risk factors of synchronous ILN metastasis for lower rectal cancer involving the anal canal.

Methods: Patients with lower rectal cancer who underwent radical resection at the Fudan University Shanghai Cancer Center were retrospectively analyzed. The synchronous ILN metastasis was defined as the metastasis occurring within 6 months after the diagnosis of rectal cancer. Patients’ gender, age, tumor diameter, dentate line invasion, differentiation level, histological type, depth of invasion, perirectal LN metastasis, lymphovascular invasion or perineural invasion were analyzed in the study. The correlation between synchronous ILN involvement and clinicopathological features were analyzed with Chi-square test/fisher’s exact test. Variables with p < 0.05 in univariate analysis were then analyzed in a multivariate logistic model. Odds ratio (OR) along with 95% confidence intervals (95% CI) were calculated.

Results: A total of 325 patients (182 men and 143 women) with lower rectal cancer met the criteria and were enrolled in the study. Among them, 20 patients (6.2%) had synchronous ILN metastasis. Both univariate and multivariate analysis showed the invasion of the dentate line had a strong correlation with synchronous ILN metastasis with the odds ratio (OR) of 23.558 [95% confidence interval (CI) 6.380-86.982] (p < 0.001). The presence of lymphovascular invasion also showed a significant correlation synchronous ILN metastasis with odds ratio (OR) of 5.260 [95% confidence interval (CI) 1.818-15.212] (p = 0.002).

Conclusion: The invasion of dentate line and lymphovascular invasion are two independent risk factors for lower rectal cancer involving the anal canal.