

ABSTRACT

Introduction: Peritoneal elastic lamina invasion (PELI) has been reported as an important negative prognostic factor in pT3 colorectal cancer (CRC). Lymphovascular invasion (LVI) is a crucial step in the dissemination of tumor cells and is correlated with lymph node metastasis and adverse prognosis.

Aim: Assess PELI and LVI in colorectal carcinoma cases and determine their role in evaluating pT3 CRC and correlating them with tumor prognostic parameters and pT4a tumors.

Materials and Methods: This retrospective study included 60 cases of CRC including pT3 (40 cases) & pT4a (20 cases). Samples were immunohistochemically analyzed for D2-40 to highlight lymphovascular invasion. The pT3 cases stained by Verhoeff's stain to detect peritoneal elastic lamina invasion. The presence of PELI and LVI was correlated with clinicopathologic variables.

Results: PELI was associated with lymph node metastasis (p-value= 0.001), LVI (p-value= 0.009), distant metastasis (p-value= 0.036) and advanced TNM stage (p-value < 0.001). D2-40 immunostaining identified LVI in 10 cases (16.7%) which could not be identified on H & E. D2-40- detected LVI were significantly correlated with lymph node metastasis (p-value= 0.0002), H&E detected LVI (p-value= 0.0007), distant metastasis (p-value= 0.038) and TNM stage (p-value < 0.01). The sensitivity, specificity, positive predictive value, and negative predictive value of lymphovascular invasion identified by D2-40 immunostaining to predict lymph node metastasis were 69.44%, 79.17%, 83.33% and 63.33%, respectively. pT3 cases with positive PELI and D2-40 detected LVI were significantly correlated to adverse prognostic factors.