

**Detection of micrometastases in lymph nodes using reverse transcription polymerase chain reaction (RT-PCR) for cytokeratin 20 (CK-20)--a pilot study**

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**Abstract:**

**OBJECTIVES:** The aim of the study was to detect micrometastases in lymph nodes in patients with rectal cancer following neoadjuvant therapy, staged node negative by routine histology. **PATIENTS AND SETTING:** Mesenteric lymph nodes from patients who have undergone neoadjuvant therapy for rectal cancer were harvested during surgery. Nodes were bisected and one half was sent for haematoxylin and eosin (H&E) staining and evaluated by a single pathologist. The other half was examined for CK20 by RT-PCR. The technique was validated by testing mesenteric lymph nodes with known metastases and nodes from patients without cancer. Twenty one lymph nodes from 6 patients (median age 46 years, range 25-55) which were negative for tumour deposits by H&E stain were assessed for micro-metastases. **RESULTS:** All 21 nodes which were histologically negative for metastases were positive for micrometastases. Two nodes with known metastases were positive for CK20 and 3 nodes from non cancer patients were negative for CK20. **CONCLUSIONS:** Detection of CK20 is accurate in identification of rectal cancer micro-metastasing to lymph nodes. Assessment of nodes by H & E histology risks under staging