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Effectiveness of an elastic tissue stain over routine haematoxylin and eosin staining for identifying venous invasion in colorectal carcinoma in a Sri Lankan settingP. N. Yogananda¹, S.R. Constantine¹, K. Rajeevan¹, W.R.A.T.J. Ranasinghe²¹Department of Histopathology, National Hospital of Sri Lanka²Base Hospital Homagama, Sri Lanka

Introduction and objectives: Colorectal carcinoma (CRC) is the fourth leading cause of cancer in Sri Lankan males and the fifth leading cause in females. Venous invasion (VI) by the tumour is a well-recognized independent prognostic factor in CRC. It is a key high-risk factor in determining the need for adjuvant therapy in stage II CRC. It is widely accepted that VI is under-recognised on haematoxylin and eosin (H&E) stained tissue sections alone following surgical resection. The main objective of this study was to evaluate whether the VI detection rate on an elastic tissue stain is superior to that of routine H&E stain in CRC resection specimens in a Sri Lankan setting, where the gastrointestinal specimens are reported by general histopathologists.

Methodology: This was a descriptive study with an analytical component carried out at the Department of Histopathology, National Hospital of Sri Lanka. In this study, data were retrieved retrospectively from 386 cases of CRC. The cases without venous invasion on H&E stain were subjected to elastin tissue stain and re-examined for the presence of venous invasion on both H&E and elastic tissue stain. The results of the two stains were compared statistically using the Chi-square test.

Results: Venous invasion was present in 152 of the 386 specimens (39.38%) on initial sections stained with H&E stain. Of the remaining 234 specimens, elastic tissue stain enabled the detection of VI in a further 122 cases, increasing the overall rate of VI detection rate to 70.98% of CRC excision specimens ($\chi^2=102.490$, $P<0.001$).

Conclusion: The addition of an elastic tissue stain enhances the histological detection of VI in CRC excision specimens.

Keywords: colorectal carcinoma, venous invasion, elastic-van-Gieson stain

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