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## Radiological accuracy of reporting EMVI in MRI rectum studies when compared to pathological outcome



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### Category: GI

**Purpose:** Extramural venous invasion (EMVI) is defined as the presence of tumour cells within blood vessels beyond the muscularis propria. Its presence in rectal cancers is an independent predictor of prognosis and can help direct treatment options. This study aimed to determine the accuracy of EMVI reported on pre-operative MRI rectum studies when compared to post-operative histological outcome.

**Methods:** This was a single-centre retrospective review of all pre-operative MRI rectum studies performed over a 2 year period. EMVI status on MRI (mrEMVI) was obtained from the radiological report and

compared with the histopathological EMVI status (pEMVI). Correlation with T and N stage was also measured.

**Results:** A total of 56 studies was included in the analysis. Overall accuracy using the latest pre-operative MRI was 63%. Most inaccurate mrEMVI reports were due to understaging (29%). Overall sensitivity was 43%, specificity 82%, positive predictive value 71% and negative predictive value 59%. A high proportion of pEMVI positive tumours were seen in T3/T4 (72% and 100% respectively) and N1/2 (63% and 100% respectively) tumours.

**Conclusion:** Moderate to low sensitivity and high specificity of mrEMVI was similar to published data. Overall accuracy was slightly lower than published data, possibly due to differences in interpretation of reporting radiologists. This study highlights the importance of recognising that mrEMVI status, in lower T stage tumours in particular, may be inaccurate and thus should be interpreted with caution when considering treatment options.