

Extramural Venous Invasion in Rectal Cancer: Relationship between Magnetic Resonance Imaging Demonstration and Histopathological Results

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ABSTRACT

Background: Preoperative staging of rectal cancer (RC) with magnetic resonance imaging (MRI) made it possible to individualize treatment and select high-risk patients who will benefit from neoadjuvant treatment, by identifying prognostic risk factors, which were previously established only through histopathological studies. Among these prognostic risk factors, emphasis should be given to extramural venous invasion (EMVI) and extramural depth of tumor (EMDT).

Methods: This study aimed to evaluate the following issues: first the accuracy of MRI for detection of EMVI compared to histopathologic analysis second to evaluate the prognostic value of EMVI determined by MRI and third to establish the relationship between EMVI and EMDT.

Results: MRI staging of 151 patients that underwent surgical resection for RC, were analyzed for MRI grading of EMVI, using a score of three levels. Comparison between MRI grading of EMVI and histopathology made it possible to conclude that there was no significant difference between the two methods. As far as the prognostic value of EMVI, the estimated average survival rate and estimated relapse-free survival were higher in patients with degree 0. Furthermore, there was a strong positive correlation between EMVI and EMDT from MRI.

Conclusions: MRI grading of EMVI correlates with histopathological findings and should be included in the multidisciplinary preoperative discussion of RC patients.

Key words: rectal cancer, extramural venous invasion, extramural depth of tumor