

MRI-Pathology Agreement in Rectal Cancer: Real-World Data from a Prospective Rectal Cancer Registry

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Abstract

Introduction: Magnetic Resonance Imaging (MRI) is routinely used in preoperative rectal cancer staging. The concordance of MRI staging with final pathologic exam, albeit improved, has not yet reached perfection. The aim of this study is to analyze the agreement between MRI and pathologic exam in patients operated on for mid-low rectal cancer.

Material and Method: Patients undergoing neoadjuvant chemoradiation therapy (nCRT) or upfront surgery were analyzed. Between January 2019 to December 2019, 140 patients enrolled in the AIMS Academy rectal cancer registry were analyzed. Sixty-two patients received nCRT and 78 underwent upfront surgery.

Results: Overall, the agreement between MRI and pathologic exam on T stage and N stage were 64.7% and 69.2%, respectively. The agreement between MRI and pathologic exam on T stage was 62.7% for patients who did not receive nCRT and 67.4% for patients who received nCRT ($p = 0.62$). The agreement on N stage was 76.3% for patients who did not receive nCRT and 60.0% for patients who received nCRT ($p = 0.075$).

Conclusions: Real-world data shows MRI is still far from being able to correlate with the pathology findings which raises questions about the accuracy of the real-life decision-making process during cancer boards.

Key words: Magnetic Resonance Imaging, rectal cancer, neoadjuvant chemoradiation therapy