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T-staging of gallbladder cancer: is it helpful to add MR imaging on CT imaging in difficult T-staging cases?

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PURPOSE: To evaluate the diagnostic performance of MR imaging in patients who had provided a difficulty in the preoperative T-staging of gallbladder cancer on CT.

MATERIALS AND METHODS: Thirty-six patients with a surgically proven gallbladder cancer (T1: 8, T2: 18, T3: 10) who had additionally undergone preoperative MR imaging due to the debate for T-staging on CT were included in this study. Two abdominal radiologists independently reviewed CT and MR imaging separately for T-staging, according to the published criteria. The results were compared with the pathologic T-staging. For statistical analysis, kappa statistics, McNemar and Fisher's exact test were used.

RESULTS: Reviewer 1 accurately diagnosed in 19 of 36 patients (52.7%) at CT and 18 patients (50%) on MR imaging, whereas reviewer 2 correctly diagnosed in 18 (50%) on CT and 22 (61%) on MR imaging. No statistical significance was not noted between CT and MR staging regarding rates of accuracy, overstaging and understaging. Reviewer 2 showed considerable increase of accurate diagnosis rate in T3 gallbladder cancer (60 – 90%), but it was not statistically significant ($p > 0.05$). Interobserver agreements between the two reviewers were 0.475 on CT and 0.378 on MR imaging.

CONCLUSION: Addition of MR imaging did not show any significant change in preoperative T-staging of gallbladder cancer in difficult T-staging cases on CT. New T-staging criteria would be needed to increase the diagnostic performance in such cases.