

## Water-enema multidetector computed tomography for planning surgery

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**PURPOSE:** Water-enema multidetector computed tomography (WE-MDCT) is a technique for the localization and preoperative T- and N-stage assessments of colon cancer. It may be a useful tool for planning surgery. The primary aim of this study was to evaluate the diagnostic accuracy of WE-MDCT for T-staging and its ability to locate tumors for laparoscopy planning. The secondary aim was to assess reading reproducibility and diagnostic accuracy for the preoperative determination of N-stage.

**METHODS:** We performed a study to evaluate preoperative WE-MDCT for surgical planning in patients with symptomatic colon adenocarcinomas who underwent surgery between June 2010 and January 2014. A radiologist and a surgeon read the WE-MDCTs separately. Results were compared with colonoscopy and the surgical specimen.

**RESULTS:** Seventy-one patients (42 men (59.1%); mean age 73.1 years (range 45 to 95)) were included. Seventy-six tumors were assessed. The intraclass correlation coefficient (ICC) for location as determined by surgery and that determined by WE-MDCT was 1, and the ICC for location between colonoscopy and WE-MDCT was 0.85 (95% CI 0.75-0.91). For T-stage determination, sensitivity was 96 and 94% and specificity 83 and 88% for readers 1 and 2, respectively. The T-stage assessment allowed for the programming of surgical access and showed good sensitivity and specificity for the assessment of invasion in adjacent organs.

**CONCLUSION:** WE-MDCT is relatively easy to perform, and its results can be read effectively by radiologists and surgeons. WE-MDCT indicated the location of tumors perfectly and permitted a good determination of their T-stage. The technique is thus pertinent for the planning of laparoscopic surgery for colon cancer.

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