ACCURACY OF TUMOR LOCALIZATION BY COMPUTED TOMOGRAPHY AND COLONOSCOPY IN RELATION WITH SURGERY

AMIR MARI, AMIR MARI, Michal Nisenboym, Fadi Abu-Backer, Yael Kopelman
Gastroenterology Department, Hill Yaffe Medical Center, Faculty Of Medicine, Technion, Israel

Mislocalization of colorectal tumors during colonoscopy can result in difficulty during operating. The error rate of 11%-21% reported in the literature implies that this is a significant challenge. A preoperative computed tomography (CT) is frequently accomplished for clinical staging.

Aim of the study:
Primary: compare the accuracy of CT to colonoscopy in localizing a colorectal tumor, in relation with surgery.
Secondary: identify factors may contribute to inaccurate localization such as tumor location, shape, existence of obstruction and staging.

Methods and materials:
A retrospective chart review was conducted on patients who underwent surgery for colorectal malignancy in Hillel Yaffe medical center between 2007 and 2014. 256 charts containing all of the following data were reviewed: colonoscopy, CT, surgery, and tumor pathology reports. Tumor location by endoscopy and CT reports was compared with the location stated in the operative report. Factors assumed to influence the accuracy (i.e. tumor size, location, staging and obstructive component), were inspected.

Results:
256 patients were included. Mean age (68), 136 were females (53%). Total agreement between CT and surgery were realized in 157/256 objects, kappa 61%. Higher kappa was calculated for agreement between colonoscopy and surgery, 208/256, (81%). Total agreement between CT, colonoscopy and surgery was calculated in 138 objects, 54%. No single parameter influence total agreement or agreement between colonoscopy and surgery. Tumor size is the only parameter influencing agreement level between CT and surgery. Sensitivity for CT is highest for transverse colon tumors (79%), and lowest for rectosigmoid tumors (46%).

Conclusion:
Colonoscopy is more accurate for defining tumor location compared to CT. no single parameter influenced accuracy level for colonoscopy, but tumor size influences the yield of CT. colonoscopy should be the modality of choice to locate the tumor. CT is a complementary modality, used mainly for staging.