Computed tomographic colonography (CTC): Possibilities and limitations of clinical application in colorectal polyps and cancer.

Colorectal cancer is the second leading cause of cancer-related deaths in Europe and the United States. Most colorectal cancers develop from adenomatous polyps over a number of years. Early detection of polyps eliminates the risk of subsequent carcinomas. Computed tomographic (CT) colonography is a diagnostic technique detecting colorectal neoplasms. With the introduction of multidetector-row computed tomography (MD-CT), CT colonography (CTC) has gained influence as a new diagnostic tool in early detection of colonic pathologies by acquiring volumetric CT data sets of the abdomen. This volumetric data is analyzed using CTC workstations, which provide an interactive display of 2D and 3D images of the colon. In several studies, CTC revealed a high accuracy (sensitivity/patient: 83-100% and specificity/patient: 93-100%) in detecting pathological colonic changes. Furthermore, CTC is an excellent diagnostic technique for the evaluation of patients with incomplete conventional colonoscopy and allows the assessment of extracolonic abdominal and pelvic organs. In this article, the status of CT colonography as a method of detecting colonic polyps and colorectal carcinomas using single- and multidetector-row CT will be reviewed.

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