

Less invasive CT-scan based colorectal cancer screening method shows good accuracy

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Computed tomographic (CT) colonography may offer patients at increased risk of colorectal cancer an alternative to colonoscopy that is less-invasive, is better-tolerated and has good diagnostic accuracy, according to a study in the June 17 issue of *JAMA*.

Colorectal cancer (CRC) accounts for approximately 210,000 deaths each year in Europe. CT colonography is a procedure in which a detailed picture of the colon is created by an x-ray machine linked to a computer. It has been shown to be sufficiently accurate in detecting colorectal neoplasia (abnormal growth of cells) and is now considered a valid alternative for CRC screening in the general population. Individuals at increased risk of CRC include those with a first-degree family history of advanced colorectal neoplasia and those with positive results from fecal occult blood tests (FOBTs). "However, adherence to follow-up [colonoscopy](#) in these individuals is suboptimal. Being less invasive and thus more tolerable, CT colonography may increase acceptability and adherence to screening, but little information is available on its performance," the authors write.

Daniele Regge, M.D., of the Institute for Cancer Research and Treatment, Candiolo, Turin, Italy, and colleagues assessed the accuracy of CT colonography in detecting advanced colorectal neoplasia in asymptomatic individuals at increased risk of CRC using colonoscopy as the reference standard. The multicenter study included individuals at

increased risk of CRC due to either family history of advanced neoplasia in first-degree relatives, personal history of colorectal adenomas (benign tumors), or positive results from FOBTs. Each participant underwent CT colonography followed by colonoscopy on the same day.

Of 1,103 participants, 937 were included in the final analysis: 373 cases in the family-history group, 343 in the group with personal history of adenomas, and 221 in the FOBT-positive group. The prevalence of advanced neoplasia was 7.5 percent in the family-history group; 11.1 percent in the post-polypectomy group (had a polyp removed); and 50.2 percent in the FOBT-positive group.

Overall, CT colonography identified 151 of 177 participants with advanced neoplasia 6 mm or larger (sensitivity, 85.3 percent) and correctly classified results as negative for 667 of 760 participants without such lesions (specificity, 87.8 percent). The positive and negative predictive values were 61.9 percent and 96.3, respectively. The negative predictive value ranged between 84.9 percent in the FOBT-positive group and 98.5 percent in the family-history group.

The authors write that these results "suggest a potentially effective use of CT colonography as an alternative to colonoscopy for screening individuals with family history of advanced colorectal neoplasia. Computed tomographic colonography has been shown to be better accepted than colonoscopy and has a negligible risk of serious adverse events; thus, it may help increase the low adherence reported for individuals who are candidates for screening, which is the main negative factor affecting its efficacy in reducing mortality from CRC."

Source: JAMA and Archives Journals ([news](#) : [web](#))

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