PERTTU ARKKILA
SIRPA-LIISA HOVI
MATTI VUORIALHO
JAANA ISOJÄRVI

PIRJO RÄSÄNEN
Docent, Researcher
National Institute for Health and Welfare, Finnish Office for Health Technology Assessment
pirjo.rasanen@thl.fi

ENGLISH SUMMARY

CT colonography as a diagnostic method in colonic diseases

Background

Computed tomographic colonography (CTC) is a non-invasive method that uses CT technology and computer processing algorithms to generate images of the colon. It is also referred to as virtual colonoscopy. CTC is used to detect polyps and cancer and is employed both in screening and diagnostic imaging.

Objective and methods

To evaluate the diagnostic accuracy and safety of CTC in colonic diseases a systematic literature review was conducted based on the Medline, Cochrane and Ovid databases. The search items were computed tomographic colonography, virtual colonoscopy, carbon dioxide, colorectal neoplasms, colonic diseases, colonic polyps, diverticulosis colonic, colitis ulcerative, crohn disease, irritable bowel syndrome, inflammatory bowel diseases, and functional abdominal pain syndrome. The outcomes examined were sensitivity, specificity, safety, and incidental findings. The use of CTC in screening was excluded as it is not used for that purpose in Finland.

Results

The search identified 74 potentially relevant articles. One of them (1) was selected as the basis for this review. A separate search focusing on safety found 59 potentially relevant publications of which four were included in this review.

CTC has high average sensitivity and specificity for large (> 10 mm) and medium (6–9 mm) colorectal polyps, but sensitivities for large polyps varied widely. CTC is a valid method for detecting clinically relevant polyps. In the detection of cancer in symptomatic patients CTC has excellent sensitivity. CTC can be considered in patients in whom conventional colonoscopy is not feasible or is associated with a significant risk for complications. CTC is not indicated if there is a need for biopsies or if it is likely that an endoscopic procedure, such as polypectomy, is needed. The choice of CTC is supported by advanced age of the patient, as older patients have an increased probability of significant extracolonic findings. Evidence on the effectiveness of the test on mortality or prevention of colon cancer is lacking.

Safety

CTC is safe and, from a patient perspective, more comfortable than conventional colonoscopy particularly when carbon dioxide insufflation is used.

The risks from exposure to radiation have to be taken into account especially when examining young patients. However, the radiation dose has become smaller with the technological development of the scanners.

Conclusions

CTC does not replace conventional colonoscopy as the primary diagnostic test but provides an alternative under certain circumstances. Knowledge on the prevalence of colonic diseases and the significance of clinical findings is essential in choosing the right diagnostic method.

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