



ALTERNATIVES TO COLONOSCOPY FOR COLORECTAL CANCER SCREENING

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ABSTRACT

Colonoscopy has been regarded as the single best screening modality for the detection of colorectal carcinoma (CRC). However the possible risks and financial expenditure has led to the evaluation of various other screening tests. CT Colonography and Fecal immunochemical stool based tests (FIT) are two screening modalities that are safe and cost-effective performing either prior to subjecting patients to an invasive test like colonoscopy can lead to safe and cost effective CRC screening

Year 1969 was a significant one for medicine as the first colonoscopy was performed and that had led to the formation of a totally new tool for the screening of colon cancer. With colorectal carcinoma exhibiting 8% of new cancer cases in the United States of America, it is crucial for the physicians to be prepared with efficient screening methods.

Over the past years colonoscopy has been distinguished as the gold standard test for detecting colorectal carcinoma as it provides the added benefit of performing biopsies and therapeutic polypectomy while performing diagnostic testing. However, the cons of this screening tool cannot be disregarded. According to the AMA journal of ethics, a good screening test should be cost effective, safe to administer, should be able to detect a high proportion of disease in its pre-clinical state, and should lead to improved health outcomes. Although, colonoscopy has a significant diagnostic accuracy and had led to improved health outcomes with good safety standards it has never been evaluated for its efficacy in a randomized control study and its cost effectiveness is still debatable. In this perspective we have tried to put forward the two possible cost effective and highly compliant alternatives that could be used instead of colonoscopy.

CT Colonography is an imaging test that is used for the screening of colorectal carcinoma and has high specificity. It uses a combination of helical CT scans of the abdomen with a computer program to generate two and three dimensional images of the colon. Although it involves bowel preparation like colonoscopy, the risks of bowel perforation are eliminated. A study conducted in 2015 argued that CT colonography was a cost effective method for screening for colorectal carcinoma as compared to optical colonoscopy for the Medicare

population and would lead to reduced Medicare expenditures for colorectal carcinoma screening.

Fecal immunochemical based stool tests (FIT) works on the principle of using monoclonal or polyclonal antibodies to detect the globin portion of the human hemoglobin. In comparison to (FIT), colonoscopy is a much more expensive screening tool that is associated with not definite but probable adverse effects like bowel perforation. It has been estimated that the yearly FIT scheme costs 1.47 million dollars which is extremely low as compared to the yearly colonoscopy scheme that costs 5.14 million dollars. Another added benefit with FIT is high compliance rates due to reduced dietary restrictions as compared to colonoscopy. As FIT is more specific for the detection of hemoglobin, the rate of false positive results are extremely low.

We suggest that patients should first be screened with either of the two proposed alternatives and should be subjected to a colonoscopy only if there is considerable suspicion of a pre-malignant or malignant lesion. Using the alternatives can prove to be cost-effective and can increase compliance rates.

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