Journal of Cystic Fibrosis
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Cystic Fibrosis Research News

Citation:

Gini A, Zauber AG, Cenin DR, Omidvari AH, Hempstead SE, Fink AK, Lowenfels AB, Lansdorp-Vogelaar I. Cost-Effectiveness of Screening Individuals with Cystic Fibrosis for Colorectal Cancer. Gastroenterology. 2017 Dec 27. PMID: 29288655.

What was your research question? (50 words maximum)

We looked at cost, benefits, and effectiveness of different strategies for colorectal cancer (CRC) screening approaches to determine the optimal approach for people with cystic fibrosis (CF).

Why is this important? (100 words maximum)

People living with CF are at greater risk of CRC compared to the general population. Screening for CRC has been shown to reduce cases of CRC, and usually begins at age 50 for people with average risk. For those with elevated risk, screening typically begins at an earlier age. While the CF population has an elevated risk for CRC, the lower life expectancy for people living with CF could lead to a different balance of benefits and harms of CRC screening. Prior to this paper, there were no CF-specific guidelines for screening.

What did you do? (100 words maximum)

We used a model to assess the pros and cons as well as costs of CRC screening to determine the most effective screening model for people with CF. To evaluate screening, the model evaluated different ages, stages, and signs of CRC progression. The model accounted for increased CRC risk and increased mortality in the CF population. We evaluated patients who had received an organ transplant separately to from those who had not to account for differences in physiology. We assessed the cost of screening compared to the

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cost of no screening. We ranked screening approaches by cost and effectiveness.

What did you find? (100 words maximum)

The recommended screening approach for the general population in the United States was not optimal in the CF population. Screening patients with CF prior to age fifty can lead to a greater reduction in deaths due to CRC for both transplant and non-transplant individuals. For patients with CF without transplant, screening beginning at age forty and recurring every five years showed significant improvement in CRC mortality at an acceptable cost. For those with transplant, beginning screening at age thirty to thirty-five was optimal. If CRC screening results show increased risk factors for CRC, there should be surveillance every 3 years.

What does this mean and reasons for caution? (100 words maximum)

People who live with cystic fibrosis need tailored screening recommendations for CRC, much like other groups of individuals at higher risk for CRC. There are reasons for caution when interpreting these findings. Although CRC risk has been shown to differ by gender, we did not examine CRC risk differences among men and women in our study. We also did not factor lung function into our analysis. Additionally, the preparation for CRC screening is more extensive in the CF population, and could alter screening effectiveness.

What's next? (50 words maximum)

Despite reasons for caution, this study has important findings in both clinical and policy settings. Outcomes of screening will need to be closely observed in the CF community to further assess CRC screening safety and its success in individuals.