International Collaboration Between Japan and Chile to Improve Detection Rates in Colorectal Cancer Screening

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BACKGROUND: In Chile, mortality from colorectal cancer (CRC) has increased rapidly. To help address this issue, the Prevention Project for Neoplasia of the Colon and Rectum (PRENEC) program was initiated in 2012 with intensive support from Tokyo Medical and Dental University (TMDU) in Tokyo, Japan, as part of an international collaboration. METHODS: From June 2012 to July 2014, a total of 10,575 asymptomatic participants were enrolled in PRENEC. Participants with positive immunochemical fecal occult blood test (iFOBT) results or a family history of CRC underwent colonoscopy. The colonoscopy results from a similar, previous project in Chile (PREVICOLON) were compared with those from PRENEC. Furthermore, the initial colonoscopies of 1562 participants in PRENEC were analyzed according to whether the colonoscopists were from TMDU or Chile. RESULTS: The complete colonoscopy, adenoma detection, and cancer detection rates were 88.0%, 26.7%, and 1.1%, respectively, in PREVICOLON, while the corresponding values were 94.4%, 41.8%, and 6.0%, respectively, in PRENEC. In PRENEC, 107 cases of CRC were detected, amounting for 1.0% of all participants. Considering initial colonoscopies in PRENEC, the complete colonoscopy, adenoma detection, and cancer detection rates were 97.4%, 45.3%, and 9.3%, respectively, for physicians at TMDU and 93.3%, 41.5%, and 5.1%, respectively for Chilean physicians. The detection rates of intramucosal cancer were 7.3% and 3.7%, respectively, for TMDU and Chilean physicians. CONCLUSIONS: Quality indicators of colonoscopy substantially improved from PREVICOLON to PRENEC. The assessments made by Chilean physicians alone were improved in PRENEC, but remained better in the TMDU group. Moreover, physicians from TMDU detected more CRCs than Chilean physicians, especially at earlier stages. Cancer 2016;122:71-7. © 2015 American Cancer Society.

KEYWORDS: adenoma detection rate, colorectal cancer, colonoscopy, diagnostic techniques and procedures, international cooperation, screening, training programs.

INTRODUCTION

Colorectal cancer (CRC) is the third most common cancer and the fourth most common cause of mortality in the world, accounting for approximately 694,000 deaths in 2012.1 Although CRCs have generally been more common in the countries of North America, Oceania, and Europe, the incidence of CRC in Asian and South American countries has increased considerably during the past decade. In Chile, mortality from CRC has increased rapidly over the past 15 years,2 and the prevention of CRC has come to be recognized as an urgent issue that might be addressed through organized screening systems.

Some studies have reported that screening with a fecal occult blood test (FOBT) has reduced CRC mortality and have suggested FOBT as a suitable population-based screening test for CRC.3-5 Screening for CRC with FOBT not only leads to the detection of advanced CRCs, but also results in detection at earlier clinical stages.6 Another advantage of screening with FOBT is that the removal of adenomatous, precancerous polyps can decrease the incidence of CRC7,8 and consequently reduce mortality from CRC.9 In particular, immunochemical FOBT (iFOBT) has been shown to be more sensitive than guaiac-based FOBT.10 Reduced mortality and the detection of CRC in earlier stages result in high cost-effectiveness and lowered health costs for both patients and the government.11

In Chile, a prospective multicenter study of CRC screening named “PREVICOLON” was conducted by Chilean physicians between 2007 and 2009. Participants aged >50 years were enrolled in PREVICOLON, and colonoscopy was indicated for those participants with positive iFOBT results, a family history of CRC, or symptoms related to CRC (ie, 

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