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Original article

Results of a study on populational colorectal cancer screening

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Introduction: As colorectal cancer (CRC) screening based on occult blood detection has been shown to be effective in reducing mortality due to this disease, it is now important to decide on the best methods to obtain the maximum numbers of participants. The aim of the study was to analyse the results from a pilot CRC screening programme in a general population sample in Barcelona. A follow-up of false positive cases was made after 5 years.

Patients and method: A cross section of the population aged 50–74 years in one primary health care centre was studied. The creening test consisted of an immunological method for the detection of faecal occult blood which was sent to the homes of the target population.

Results: Participation was 46.6%, 11.7% of the tests were positive, and 79.3% agreed to have a colonoscopy. Eight adenocarcinomas and 32 patients with adenomas >0.4 cm were diagnosed.

Conclusions: The results obtained on the initial participation and the follow-up at 5 years suggest the viability of a CCR screening programme in our country.

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Resultados de un estudio de cribado poblacional de neoplasia colorrectal

R E S U M E N

Palabras clave:

Cribado de cáncer colorrectal

Diagnóstico precoz

Sangre oculta en heces

Introducción: El cribado poblacional de cáncer colorrectal (CCR) basado en la detección de sangre oculta en heces se ha demostrado efectivo en disminuir la mortalidad por esta enfermedad, si bien es importante encontrar los métodos adecuados para obtener una participación suficiente. El objetivo del estudio fue analizar los resultados clínicos de un programa piloto de cribado de CCR y las causas de rechazo. También se realizó el seguimiento de los casos falsos positivos a los 5 años.

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Pacientes y método: Se diseñó un estudio de corte transversal en una población diana de 2.105 personas de 50 a 74 años atendidas en un centro de asistencia primaria. La prueba de cribado fue un método inmunológico, que se remitió al domicilio de la población diana.

Resultados: La participación fue del 46,6%, el porcentaje de positividad de la prueba fue del 11,7% y la aceptación de la colonoscopia fue del 79,3%. Se diagnosticó en total a 32 pacientes con adenomas 40,4 cm y a 8 con CCR.

Conclusiones: Los resultados obtenidos en nuestro estudio, tanto en participación como el seguimiento a los 5 años, permiten creer en la factibilidad de un programa de cribado poblacional de la neoplasia colorrectal en nuestro país.

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Introduction

Colorectal cancer (CRC) is an illness that could ideally be a candidate for screening due to its biological characteristics and socio-economic impact. The high prevalence of this type of tumour and the existence of its precursor, the adenoma (whose diagnosis and treatment [endoscopic polypectomy] could alter the natural history of the illness and improve its prognosis), broadly justify the efforts in the implementation of populational screening programs.¹

At present, the usefulness of screening in the population older than 50 and with a medium risk of suffering CRC is not doubted, due to the scientific evidence provided by randomized prospective studies²⁻⁴ as well as by cases and controls.⁵ Type A scientific evidence,⁶ reached with the results of different controlled studies, has marked its progressive recommendation by the majority of scientific societies.⁷⁻¹²

Furthermore, studies that analyzed the cost-effective relationship of the CRC screening programs are also available. A clear benefit has been demonstrated in said studies involving a cost of 10 000-25 000 dollars per gained year of life.^{13,14} In addition to this, other benefits have been demonstrated after the implementation of CRC screening programs, that include not only the early diagnosis of CRC (secondary prevention), but also a decrease in the incidence of the illness (primary prevention), which, depending on the screening method used, may oscillate between 20¹⁵ and 58%.¹⁶ Because of this, the prestigious National Polyp Study Group has estimated that, after a screening program and an adequate endoscopic control, up to 90% of the CRC cases could be avoided.¹⁷

In the United States, 46% of people older than 50 years are included in a CRC screening program with adequate follow-up,¹⁸ whereas in Spain the use of CRC screening in the medium risk population is scarce and limited to studies and pilot programs with diverse strategies.¹⁹⁻²⁷ In this respect, our group published the results that corresponded to a prospective and randomized study in order to demonstrate that it was possible to achieve a greater participation in a CRC screening program according to the invitation strategy to which the target population was subject to.²³

The goal of the current study is to present the clinical results obtained from the participating population in the abovementioned study, including the follow-up of the false positives after 5 years. The results of a telephone survey

about the reasons of not participating in the screening are also presented.

Patients and method

The design of the study was a transversal cut carried out in the Hospital Universitario del Mar setting. The recruitment period took place from October 1998 to January 1999. The population pertaining to a primary healthcare centre in Barcelona was selected for this study. The only inclusion criteria was an age between 50 and 74 years.

The target population included 2105 people. Seventy-nine people were excluded because of a personal history of CRC or census errors.

The screening test consisted of the use of the Hexagon Obti Test®, an immunological method to detect occult blood in faeces that has been used in other studies of this type as an alternative to more traditional chemical methods.^{28,29} This method, based on the detection of human haemoglobin, does not require any previous diet and is specific for the detection of colorectal originated blood.³⁰ The test was carried out in 2 consecutive days.³⁰ The samples collected from each patient had to be delivered to the primary healthcare centre of which the participants belonged.

The target population received a letter of invitation to the study at their home address, as well as the screening test together with the necessary information. A self-administered questionnaire was also included to obtain information about colorectal symptoms in the last 12 months. Fifteen days later a reinforcing telephone call was made to those that had not responded.

A telephone survey was carried out for those that decided not to participate, in order to find out the possible causes of their rejection. The open answers were grouped in one of the following sections:

1. I am not interested in having more information about my health.
2. The subject could not carry out the test. In this section, the responses of people that had expressed said impossibility for different reasons were grouped, such as serious or limiting illness, personal problems that they did not want to clarify, temporary absence because of travel, not understanding the characteristics of the study and/or the instructions, and other responses which generally belonged to this section.

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