

Comparison between endoscopic and surgical treatment of screen-detected vs non-screen-detected colorectal cancers

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INTRODUCTION

Since 2005, the Italian National Health System (NHS) implemented a free screening program for colorectal cancer, a “Minimal Care Level” coordinated by each Region with a referring Center and a dedicated software establishing the subsequent steps for the invited citizens.

Target population includes all citizens aged 50 to 70, except “high-risk” subjects [(family history; serious, long-lived I.B.D.; previous colorectal surgery; recent non-screening-related FOBT and/or colonoscopy; apparent digestive-tract symptoms (proctorrhagia; abdominal pain; bowel irregularities, etc.)]. The first step is an immunological test for Fecal Occult Blood (FOBT) every 2 years. FOBT+ cases are invited to undergo total colonoscopy with the possible endoscopic or surgical treatment of screen-detected lesions and the related follow up.

The “Screening Center” has a database that can give a detailed, real-time situation of the program: it is therefore possible to compare the characteristics of screen-detected and non-screen-detected cancers.

MATERIALS AND METHODS

Table 1 reports the results of the screening program for 2006 and 2007, as registered at the Lombardy Screening Center (9.500.000 overall, 2.481.117 target population): in 2006, in Lombardy, 721 carcinomas and 3.369 “high-risk” polyps were detected in asymptomatic patients, out of 12.293 total colonoscopies (VPP in colonoscopy after FOBT + : $7.3 + 34 = 41.3\%$).

Table 2 reports the results of the same screening program in Milan (1.300.000 overall, 323.976 target population): 327 carcinomas and 1.370 “high-risk” polyps were detected in asymptomatic patients, out of 4.907 total colonoscopies (VPP in colonoscopy after FOBT + : $8 + 33.5 = 41.5\%$). Table 3 shows colorectal-cancer cases treated at the European Institute of Oncology in our General Surgery Unit: between January 2006 and August 2008, 860 operations for colorectal cancer were performed, 228 of which in Lombardy patients aged 50-69. Out of the

total 228 operations, 106 cases (45%) were screen-detected, 38 of which (35.8%) for cancerized polyps. Over the same period 122 operations were performed for non-screen-detected cancers (53% of the total), 14 of which (11.4%) for cancerized polyps.

Surgical radicalization (resection + lymphadenectomy) after “complete” endoscopic polypectomy was performed in 39 patients (27 screen-detected and 12 non-screen-detected).

DISCUSSION

Screen-detected tumors have more favorable staging than non-screen-detected, as demonstrated in table 3, with a significantly lower incidence of pT3-4 (64.8% vs 36%), pN+ (43 vs 31%), M+ (13.4% vs 5%) cases. Cancerized polyps are 35.8% of screen-detected carcinomas and only 11.4% of non-screen-detected.

Italian screening programs are still new so the follow up of identified lesions is still too short for a comparison on survival (either overall or disease-free) and mortality (either disease-related or non-disease-related). Significant data regarding follow up of both screen-detected and non-screen-detected tumors will be available in a few years' time.

CONCLUSIONS

As it previously happened with screening programs for breast and cervical cancers, the Italian Group for Colorectal Cancer Screening (Gruppo Italiano Screening ColoRettale - GISCoR), was born to promote quality-controls screening programs all over Italy.

Screening program led to an improvement in both endoscopic and pathological diagnoses, with a better evaluation of these lesions accepted by Endoscopists, Pathologists and Surgeons who have to manage with the patient their “clinical risk”. Tumor registries will help to evaluate if the future incidence of malignant tumors will decrease considering the early detection and treatment of the screened “high-risk” polyps (precancerous lesions).

It will be possible to understand whether screening only offers “earlier diagnosis” or there are “biological differences” between screen- and non-screen-detected tumors. Such differences, if they exist, could be found through the tissue bank carefully collected by the Screening Centers.