

Mirror results in population screening of Breast and Colorectal cancer in Lithuania.

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Abstract

The mortality rates are high in Lithuania with relatively low incidence such as of Colorectal and Breast cancers. For intense in Lithuania the CRC age-standardized incidence rate is 23.4 and mortality rates 13.7 while in the Netherland comparative rates are 40.2 and 13.4 respectively. Similar the Breast cancer incidence rate in Lithuania is 65.2 and mortality rates 23.4 in the Netherland comparative rates are 131.3 and 26 respectively. The patient's survival in case of early detection of the cancer by FOBT screening and colonoscopy for colorectal cancer and mammography screening for breast cancer is an indicator of mortality from these cancers. In Lithuania 2009 started a screening program using the FIT (OC-Sensor, Japan) with automated reading techniques. The target population of study according to criteria in age 50-74 years for potential screening was 45 330 subjects: female 27 909(61.6%) and 17 421(38.4%) male. Patients whose samples revealed an FIT value $Hb > 100$ $\mu g/ml$ of buffer underwent colonoscopy. The participation rate in screening calculated every 2 years 1-4 round was 33.6%, 35.1%, 40.2%, 23.7%. From 35 689 participated in screening patients in 176(0.49%) was diagnosed CRC cases and from 9 641 non-participated patients was diagnosed 94(0.98%) CRC cases. Distribution of CRC by stage I-IV and ten years survival of screened and non-screened patients were not significantly different $P=0.13$ and $P=0.4$ respectively. Results of these study we compare with mammography screening program results for Breast cancer which started in Lithuania 2005 [Steponaviciene et al, 2019]. According to program women 50-69 years old was tested by mammogram every 2 years. The target population for screening 2016 January was 435.000. Only about half of the women who are recommended to participate in screening in mammography have participated. Screen-detected tumors represent only a small proportion (up to 28%) of tumors diagnosed in women aged 50-69 years. The distribution of diagnosed colorectal and breast cancer in screened patients by (TNM) stage was similar: Colorectal cancer Stage I-31.3%, II-30.7%, III-27.8%, IV-10.2%; Breast cancer – 46.3%, 34.2%, 14.1%, 3% respectively. Screening of average risk population is limited because the criteria of age are 50-74 for CRC and 50-69 years for breast cancer. A potential young below 50 years subjects with high risk to hereditary cancer including Lynch Syndrome and BRCA1/2 predisposition cancer are not accepted in screening and don't impact on possible changes in improving of early diagnosis these cancers. However in study 1993-97 of CRC patients under 55 years was suggested that a positive family history was not a clear indicator of early stage diagnosis. The Incidence Ratio of stage I-II for individual with positive family history for CRC was 0.95, whereas for individual for CRC with non – CRC family history it was 1.05. In 2009-2019 was introduced in medical practice a screen first colon cancer tumour by MSI and IHC staining according to histological criteria and young age below 50 years were diagnosed 54 suspected for Lynch syndrome patients (32 man and 22 women). Any one a CRC did not diagnosed in stage-I (TNM). The distribution of diagnosed CRC stage in each stage were: Stage II- 19(35.2%), III- 21(38.8%), and IV-10 (18.5%). In study of the familial and non-familial 263 breast cancer patients (mean age 30-86) with the founder BRCA1 mutation carrier status identified between 1996-2009 distribution diagnosed cancer cases by (TNM) stage were: Familial cancer stage I -27.7%, II-53.2%, III-19.1%; Non familial cancer I-35.6%, II-45.4%, III-19.0% respectively. Distribution of cancer patients with mutation was: Stage I -26.1%, II-65.2%, III-8.7%.

Conclusions: The participation rate for CRC and Breast cancer in screening was less than EU guideline set minimum 45% and 70% respectively. It did not improve a detection of CRC by stage $P=0.13$ and ten years survival of screened and non-screened of CRC patients is not significantly different $P=0.39$. Mirror results show and breast screen-detected tumors represent only a small proportion (up to 28%) including tumor in Stage I -46.3%.