

Young Lynch Syndrome patients and CRC prevention in low incidence population of Lithuania.

Elsakov P.¹, Zalnierunaite-Lavrinovic L.¹, Smailite G.², Laurinavicius A.³ Meskauskas R.³ Lithuania.

Colorectal cancer (CRC) is a major cause of death in all industrialized countries with high incidence rates. The aim of CRC screening the European Commission recommends EU member states is to improve patient survival by early detection cancers using colonoscopy with a set minimum participation rate of at least 45%. However, mortality rates are high in countries with relatively low incidence such as in Moldavia, Russia, Montenegro, Poland and Lithuania. For intense in Lithuania the CRC age-standardized incidence rate is 23.4 and age-standardized mortality rate is 13.7 while in the Netherlands comparative rates are 40.2 and 13.4 respectively.

We have a study to estimate the efficacy of CRC detection by screening with FIT (OC-Sensor™) and colonoscopy in urban dwellers with average risk in Lithuania capital city Vilnius at 2009-2016. The our study was estimated that the participation rate for at least single screening over the -7 years was 78.7% with participation rate in each round (1-4) was less than the EU guideline set minimum 45% and did not improve a detection of CRC in each stages I-IV (P = 0.13). Therefore the screening of average risk population is limited because the criteria of age are 50-74 years and potential young (below 50 years) subjects with high risk to familial cancer including Lynch Syndrome are not accepted for preventive program. Meanwhile patients with Lynch syndrome harbour mutations in MMR genes that appear to be associated with the phenomenon where disease is diagnosed 5-12 years earlier mutation carrying children compared with their affected parent. This has the potential to complicate the recognitions of Lynch syndrome as defined by the Amsterdam criteria (or iterations of it) in young probands affected by CRC. In Lithuania in same period with population screening in 2009 was introduced a screen first colon cancer tumour by MSI and IHC staining according to histological criteria and young age. We study to estimate the efficacy of cancer diagnoses in young patients below 50 years who had tumour failed to express MLH1, MSH2 and MSH6 use staining MSI and IHC. For period 2009-2019 were diagnosed 54 Lynch syndrome patients (32 man and 22 women). The distribution of diagnosed cancers cases in each stage were: Stage I-0(0%), Stage II-19(35.2%), Stage III-21(38.8%), Stage IV-10(18.5%), Unknown Stage – 4(7.5%). The youngest patients men is 27 years (CRC diagnosed in stage III), women 24 years (CRC diagnosed in stage III). Farther research is needed to help to determinate and stratify various risks, such as Lynch Syndrome for the development of CRC, specify intervals for where optimal CRC screening should occur for asymptomatic individuals in population with a low incidence of CRC.