

Decline in the incidence of colorectal cancer and the associated mortality in young Italian adults

We have read with interest the article by Vuik *et al* that reported the trends in early-onset colorectal cancer (eoCRC) in 20 European countries.¹ On the basis of data from nine of 20 Italian regions covering the years 1996–2009, Italy was the only European country where the incidence of eoCRC has dropped. This picture is supported by the latest findings based on cancer records covering almost 36 million Italian residents (60% of the population, almost 15 millions aged 20–49 years) in the data set as at 2014 of the Italian Association of Tumour Registries (AIRTum).² This newly available information on the incidence of eoCRC and the corresponding mortality rates further confirms the peculiar favourable Italian trend.

The present report concerns a total of 17204 incident eoCRCs in patients aged 20–49 years registered between 2003 and 2014, with an overall incidence of $9.4/10^5$ (males (M)= $9.3/10^5$; females (F)= $9.4/10^5$; figure 1). A declining incidence of eoCRC was documented during this period for the population as a whole (annual percent change (APC): -1.5% ; 95% CI: -1.9 to -1.0), and in both sexes (M-APC: -1.6% ; F-APC: -1.2%). The mortality rates (M= $2.1/10^5$; F= $2.0/10^5$; figure 1) also dropped in both males (APC: -1.9%)

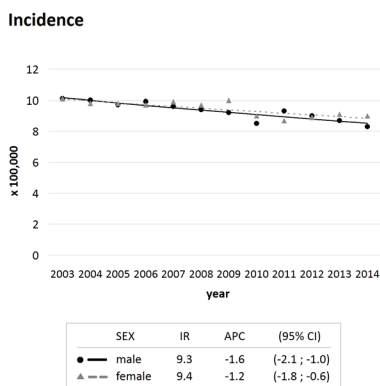


Figure 1 Standardised (EU 2013) colorectal cancer incidence (IR) and mortality (MR) rates $\times 100\,000$ population, and annual percent change (APC), with 95% CI in Italy from 2003 to 2014, by sex. Age 20–49 years.

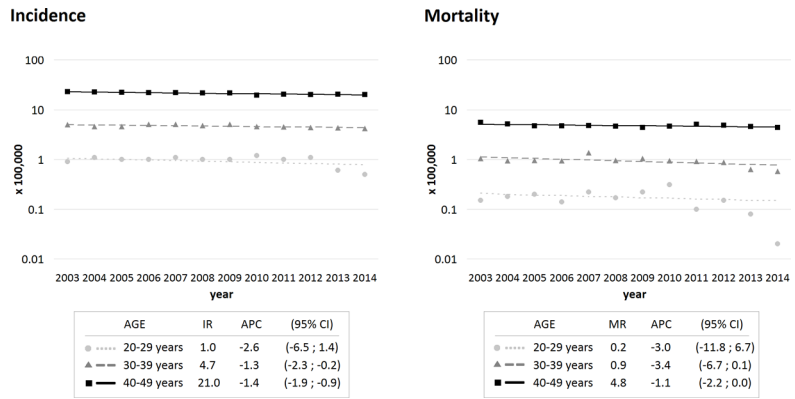


Figure 2 Standardised (EU 2013) colorectal cancer incidence (IR) and mortality (MR) rates $\times 100\,000$ population, and annual percent change (APC), with 95% CI in Italy from 2003 to 2014, by age group (both sexes). Y-axis on logarithmic scale.

and females (APC: -2.3%). The eoCRC incidence rates decreased consistently in all age groups considered (APC range: -2.6% to -1.3% ; figure 2). The overall mortality rates by age group were 0.2, 0.9 and $4.8/10^5$ for patients aged 20–29, 30–39 and 40–49 years, respectively (APC range: -3.4% to -1.1% ; figure 2).

No differences in APC rates emerged after distinguishing between colonic and rectal primary sites (overall incidence: $6.0/10^5$ vs. $3.4/10^5$, respectively; colon APC: -1.4% ; 95% CI: -1.9 to -0.9 ; rectum APC: -1.5% ; 95% CI: -2.2 to -0.7). As for mortality rates by site, a steeper decrease was associated with rectal cancer (colonic cancer: $1.5/10^5$, rectal cancer: $0.5/10^5$; colon APC: -1.1% , with 95% CI: -2.2 to 0.1 ; rectum APC: -2.9% , with 95% CI: -4.9 to -0.9).

Critically addressing the present data prompts two basic considerations: (i) in a population of almost 15 millions young Italian adults, both the incidence of eoCRC and the associated mortality rates

are declining, unlike the epidemiological trends reported in other countries; and (ii) the available data on the eoCRC incidence rates differ significantly from the eoCRC-related mortality rates ($9/10^5$ vs. $2/10^5$).

Concerning the first point, it is hard to find a ‘biologically-consistent’ interpretation for this finding, and we lack the evidence to support claims of ‘favourable ethnicity factors’, ‘protective microbiota profiles’ or ‘cultural/dietary habits’.^{3,4}

More clinically relevant explanations may emerge from comparing the eoCRC incidence and mortality curves. The mortality rate (a well-recognised factor to consider in designing secondary cancer prevention strategies⁵) was always low among eoCRC patients, and this epidemiological profile (consistently with other international reports⁶) would not support any benefit of extending secondary prevention strategies to individuals under 50. The (coming?) globalisation of the exposure to risk factors (poor diet and obesity, among others) potentially linked to colorectal carcinogenesis (in adolescents and young adults too) should nonetheless prompt us to stay alert and quickly pick up any unfavourable change in Italian current epidemiological trends.⁴ For now, the available evidence does not support extending CRC screening programme to people under 50 (in Italy, at least).

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