

Colorectal Cancer : A Disturbing Increase in Young Adults

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One analysis has shown that young Canadians born during the 1980s are at nearly three times higher risk of developing colorectal cancer before age 50 than were previous generations.

THE RISKS OF AGING

Age represents the principal risk factor for cancer: while only 1% of the population under 40 develops an advanced and invasive cancer, this proportion grows exponentially with time to reach nearly one third of men and one quarter of women above the age of 60.

This marked increase in the incidence of cancers with age is due to the fact that cancer progression is a very slow process, during which time the abnormal cell must accumulate many mutations in order to succeed in achieving a sufficiently advanced state that can menace the equilibrium of the organism. In the case of colorectal cancer, for example, it may require over thirty years between the appearance of a mutated cell having cancerous potential and the presence of a cancer mass which is clinically detectable. If age increases the risk of cancer, it is essentially because aging provides the time for the cancerous cells to acquire the characteristics necessary for their progression into a mature cancer.

NEW TENDENCY

It would be wrong, however, to think that aging is the only parameter which influences cancer risk. This is particularly true with respect to colorectal cancer. Recent data indicate that a new trend is taking effect: the incidence of these cancers is overall decreasing in North America due to a decrease in the number of elderly people who develop this cancer but, curiously, the number of young people who develop a colorectal cancer has instead been constantly increasing in recent years. For example, a study performed in the United States showed that in young adults aged 20 to 30 years, the incidence of colon cancer has increased by 1-2% each year between 1990 and 2013¹. The situation was even worse for rectal cancer where there was an annual increase of 3% over this period.

Recent data obtained in Canada confirm this modern trend². By analyzing 688,515 cases of colorectal cancer which were diagnosed in Canada between 1971 and 2015, Albertan researchers have shown that the incidence of these cancers had significantly decreased in elderly people but that more and more young adults were, paradoxically, developing this disease. Since 2010, the incidence of colorectal cancer increased annually by 4.5% in women under 50 whereas men had experienced an increase of 3.5% annually since 2006. This increase in colorectal cancer in young adults is also evident when one examines the risk of cancer according to year of birth: men and women born in the 1980s have three times greater risk of developing this cancer before the age of 50 than had people of preceding generations, e.g. born in the 1960s.



LIFESTYLE

It is estimated that only 7% of colorectal cancers which occur at a young age are due to a genetic predisposition acquired through heredity. The genetic baggage of the population has obviously not changed over the course of the last 30 years, which necessarily implies that the increased incidence which has been observed actually is directly derived from recent modifications to lifestyle. According to a study performed on American women, it seems that excess weight represents an important risk factor³. The risk of developing a colorectal cancer before age 50 is increased by 37% among those who are overweight (BMI between 25 and 30) and by 93% among those who are obese (BMI \geq 30), compared to thin women (BMI between 18 and 23). It also seems that a Western-style diet (lots of industrially processed foods, rich in fats and with added sugar) considerably increases the risk of colorectal cancer, very probably due to its pro-inflammatory character⁴.

Given that the normal latency time for the development of colorectal cancer is very long (up to 35 years), the diagnosis of this cancer in a young adult suggests that these first cancerous cells are appearing very early in the lives of these individuals and have succeeded in evolving very quickly. The increased incidence of colorectal cancer in young adults is alarming and suggests that the extent to which the way we live, particularly the increase in body weight and poor diet, is toxic for the body and can dramatically accelerate the development of cancer. Colorectal Cancer Canada has done extraordinary work in the battle against this cancer. Come take part in the "Push for your Tush" event on September 22 in Montreal (see <https://ccc.akaraisin.com/ui/pushforyourtush2019> for details).

- (1) Siegel RL et al. Colorectal cancer incidence patterns in the United States, 1974-2013. *J. Natl Cancer Inst.* 2017; 10.1093/jnci/djw322
- (2) Brenner DR et al. National trends in colorectal cancer incidence among older and younger adults in Canada. *JAMA Netw. Open.* 2019; 2: e198090.
- (3) Liu PH et al. Association of obesity with risk of early-onset colorectal cancer among women. *JAMA Oncol.* 2019; 5: 37-44
- (4) Tabung FK et al. Association of dietary inflammatory potential with colorectal cancer risk in men and women. *JAMA Oncol.* 2018; 4: 366-373.