Heredity deals the cards;
Environment plays the hand.
Charles L. Brewer

If there is no will to live long and happy,
prevention programs are meaningless.
Wieslaw A. Jedrychowski

1. PREFACE

The growing burden of cancer over the world poses a serious challenge for epidemiology and preventive medicine. The monograph *Dietary Prevention of Colorectal Cancer* contains the final comprehensive report of series of retrospective studies in Krakow over the last decade on dietary habits potentially involved in the occurrence of colorectal cancer. We believe that data obtained in the course of the studies will make prevention of colorectal cancer feasible and practical.

The monograph was based on the results of case-control studies carried out in period 2006–2008 (financed by the grant from the Ministry of Science and Education in Poland, Nr 2 P05D 053 29), and the studies realized in years 2000–2005 funded by the State Committee for Research (Nr 6 P05D 002 20). Principal investigator of the studies was Prof. Wieslaw Jedrychowski from the Chair of Epidemiology and Preventive Medicine, Coll. Med. Jagiellonian University in Krakow, Poland. All case-control studies were performed in the 1st Surgery Clinic of the University Hospital in Krakow. Food frequency questionnaire with the computer software used for the studies was an adapted version of the German Food Questionnaire kindly provided by Dr Heiner Boeing (Institute for Human Nutrition in Potsdam, Germany). For calculation of nutrients the Polish tables of composition and nutritive values of foods were used.

The monograph reports the results of the largest hospital based case-control study in Eastern Europe, which confirmed that besides apples and other fruits, also consumption of pickled vegetables was associated with reduced risk of colorectal cancer. We think that the reduction of colorectal cancer risk associated with apple consumption may be related to rich content of flavonoid and polyphenols that can inhibit cancer onset by protecting tissues against free oxygen radicals and inhibiting cell proliferation. The protective role of fermented food on the colorectal cancer is not yet clear. However, it is well known that preservation of foods by fermentation ensures not only increased shelf life and microbiological safety of a food but also may also make some foods more digestible.

High on the list of suggested protective factors is lactic acid bacteria, which is involved in many fermentation processes of milk, meats, cereals and vegetables.

Our results also added an evidence that high consumption of meat may increase the risk of cancer of the large intestine, however, higher fish intake had a clear opposite effect on colorectal cancer. The important finding of the study is that adequate fish consumption (at least one serving a week) has the significant modulating effect on the colorectal cancer risk. Although the preventive importance of fish consumption evidence is still under debate, but the findings should prompt interest in the possibility that a high dietary intake of n-3 polyunsaturated fatty acids from oily fish may exert anticarcinogenic effects on the colorectal mucosal.

The results obtained from molecular and cytogenetic study suggest that cellular DNA repair efficiency evaluated by SCGE assay may identify patients more sensitive or resistant to therapeutic treatment. The repair competence assay can provide such information during one day from collection of the biological sample. However, further and more advanced studies on much bigger sample size are needed to improve the statistical power of the analysis.

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