Large Bowel Cancer:
Policy, Prevention, Research and Treatment

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Preface

The chapters of this book are based on presentations made at the 2nd International Conference on Gastrointestinal Cancer that took place in Jerusalem in 1989. The decision to limit the contents to colorectal cancer was based on several considerations: firstly, it is, or is becoming, the most common gastrointestinal malignancy in many countries with a westernized life-style; secondly, there has been marked progress in research on the international scene regarding its primary and secondary prevention; thirdly,
there are newer approaches to diagnosis and therapy. For these reasons we believe it is timely to emphasize colorectal cancer in this book. The first three chapters present the World Health Organization, European Community and National Institutes of Health (US) plans and policies that are being developed for primary and secondary large bowel cancer prevention. These are based on decades of experimental research and epidemiologic studies, leading to current working guidelines. The next four chapters describe large United States, European, Australian and Israeli intervention trials. These studies are now in the planning or early implementation phase. Their designs are illustrative of the complexities of inter-related nutritional and genetic etiologic factors and our ability to assess the intermediate endpoints of response, namely, measurement of proliferation or adenoma recurrence, prior to the appearance of clinical cancer. Following these, there are three chapters relating to our newer knowledge in the areas of metabolic epidemiology, genetics of large bowel cancer and the screening of families at risk. The complex interplay between these two major etiologies is being better understood and evaluated in most primary and secondary prevention studies. The recent and rapid progress in our understanding of the multiple and progressive genetic changes, leading to clinical

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neoplasia, is extremely exciting. Identifying and possibly preventing the stepwise progression by chemoprevention or dietary intervention may be the immediate benefit of primary prevention. The nutritional factors promoting these steps are also being investigated in both clinical and experimental studies. The role of micronutrients, such as calcium, in correcting this cancer promotion is discussed in experimental and clinical studies. The importance of screening and diagnostic methodology is reflected in the eight chapters dealing with newer tests and their application. The fecal occult blood test is still the basic test used for mass screening. An analysis of its biochemical basis and the initial evaluation of newer tests having improved sensitivity and specificity are presented. Following this is a discussion of the use of screening endoscopy, a method which is of the highest sensitivity and specificity but is invasive and relatively expensive. The strategies for screening are being evaluated by geographically separated centers, in Canada and Italy. An interesting difference in their design is related to the evaluation of a cost-benefit approach in the Italian study. This is of major importance to any large-scale screening program. The meticulous observation and analysis of experimental carcinogenesis is the basis for developing newer tumor markers or markers of risk for neoplasia. These biomarkers, in use or being evaluated, are presented. Novel and newer tests,
based on examining the colonic contents, are described and initial results reported. Some of these tests are based on utilizing the colonic effluent that results from bowel preparation for colonoscopy; another uses intraluminal trapping of intestinal contents for metabolic evaluation. These methods may be of major importance for experimental and human metabolic studies related to colorectal carcinogenesis.

The final three chapters deal with newer approaches to therapy: hormonal, immunotherapy, and radiation. The first therapy is the least established but also has diagnostic potential, the second offers hope for potentiating the body's response to invasive but not metastatic disease, the third is now routine adjuvant treatment for advanced stage, but operable rectal cancer.

We believe that this volume is timely in providing an overview of newer developments in colorectal cancer. This is a common malignancy which has the potential for primary and secondary prevention.

The Editors
Paul Rozen, Chaim Reich, Sidney J. Winawer