

# Chairperson's Introduction

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Significant steps towards effective medical treatment (chemo-, antiendocrine- and targeted-therapy) of certain types of neoplastic diseases – mainly rare in incidence and of haematologic or germinal origin – took place during the second half of the previous century. This has kindled the hope for a cure of cancer by medical treatments, either alone (leukaemias, disseminated testicular cancer) or as additional adjuvant medical drug treatment in conjunction with surgery and/or radiotherapy (malignant lymphomas; breast, colon and other cancers). However, this unquestionable therapeutic progress had no influence on the worldwide problem of rising cancer incidence, and while more effective drug therapies have also clearly improved palliative (non-curative) cancer therapy for thousands of afflicted patients, chemo- and endocrine therapy have not greatly changed the prognostic outlook and the mortality figures for most major cancer types, such as breast, prostate and colon cancer, as they could neither control their rising incidence nor greatly alter their mortality, once the illness had metastasised.

It was, therefore, quite another leap for modern oncology when courageous clinical researchers, such as the NSABP Group in the US and Jack Cuzick and others in the UK, Australia and Continental Europe with the IBIS trial system, were able to demonstrate for the first time a significant reduction of the incidence of breast cancer in otherwise (still) healthy women with increased breast cancer by means of a limited 5-year anti-endocrine drug intervention with the selective oestrogen receptor modulators tamoxifen and raloxifen [1–3]. More of these chemo- or better anti-endocrine-prevention trials are also presently ongoing, or are being planned on a worldwide basis, with aromatase inhibitors, retinoids and targeted agents in breast cancer, and with aspirin, NSAID's, COX-2 inhibitors in colon cancer and with 5- $\alpha$ -reductase-inhibitors and other means, such as dietary interventions, in prostate cancer [4–6].

At the dawn of the new 21st century, cancer chemo- and bio-prevention in elevated risk populations of society with potentially less toxic, but hopefully more

effective compounds and dietary interventions, seems to be emerging as a new, successful way of controlling cancer in a world troubled by perspectives of rising global cancer incidence, especially in heavily populated countries in South-East Asia. This “medical” method of primary cancer prevention by pharmacologic interaction of limited duration with the process of early carcinogenesis is an attractive alternative to the difficult approach of altering chronic and culturally driven lifestyle habits to influence cancer incidence and also, hopefully, cancer mortality.

The potential of interventional chemo- and bio-prevention as a successful approach in primary cancer prevention should therefore start to catch the innovative vision of industry and also the professional interest of medical oncologists, as it clearly touches upon their special experience in dealing with antineoplastic drugs and with patient counselling, supplementing the efforts of environmentalists, epidemiologists, radiologists, gastroenterologists, urologists and others engaged in the progress of primary and secondary prevention of major cancer types.

However, chemo- and bio-prevention of cancer in healthy individuals, even if restricted to those with clearly increased cancer risk, is by no means an easy task. It requires even more expertise and precaution on the part of drug companies, drug regulating authorities and physicians in balancing potential gains (reduction of cancer incidence and, in the long run, cancer mortality) and side-effects or potential harms than with therapeutically legitimate medical interventions in manifest disease. Healthy individuals with an increased cancer risk are not “patients” (yet), and their tolerance of side-effects by chemopreventive drugs is low, and potential legal problems with unforeseen long-term drug sequelae may slow down the impetus of drug development and the conduct of clinical chemoprevention trials, as we recently experienced with prevention trials involving selective COX-2 inhibitors.

It is the aim of this session on “chemoprevention of major cancers: the latest news” to inform medical oncologists about the state of the art of this emerging new

dimension of medical cancer intervention intended to reduce the incidence and clinical treatment burden – and hopefully, long-term, the mortality – of major tumour types such as breast, prostate and colorectal cancer.

### Conflict of interest statement

None declared.

### References

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