



Prevention of Breast Cancers

The 2014 Annual meeting of the European Cancer Prevention Organization

November 21 & 22, 2014

Genk-Hasselt, Belgium

The good news about breast cancer is that more women are cured than ever before. New and better treatments lead to longer survival with better quality of life, and much hope has been raised from the implementation of individualized targeted and endocrine treatments. But rarely, one could expect cure in advanced disease.

The improvements in survival can be explained almost entirely by the detection of the disease in its first stages where more cures can be expected through less mutilating therapies. The importance of early detection cannot be overemphasized and remains one of the established methods to conquer the disease. There is reasonable hope as well that secondary prevention still can be improved to reach more women with better equipment.

But the silent incidence rise in Western countries and even steeper increase in developing regions remains worrisome, forcing the medical community to find urgently modifiable causal factors. Germ line mutations are responsible for 5 to 10 per cent of the cases but are difficult to prevent. Exogenous factors, in particular those in early life, such as diet, environment, lifestyle, reproduction, and not in the least, medical interventions, are well known causes. Later in life, diet, medication, endocrine factors, and lifestyle may play a role as well.

Substantial progress has been made in discovering how the disease originates and progresses before it becomes clinically detectable and life-threatening. In this preclinical stage, susceptibility may be reversed

and progression slowed down. Chemoprevention has been tried in the past. The moderate success of such interventions can be explained now by the different biomolecular types and the recognized heterogeneity of cancer cells. The unawareness of the large variability in diseases, commonly named breast cancer, is probably the reason why progress was slow and inconsistent in the past.

Large scale interventions should account for the many faces of breast cancer. It is highly probable that for example luminal types are caused by other lifestyle factors compared to triple negatives and HER2-types. Various prevention strategies might be combined in one coherent and affordable action program.

Together with a substantial number of highly recognized research groups, the European Cancer Prevention organization intends to make an inventory of the recent scientific research to provide health care workers and decision makers with a comprehensive strategy to combat the disease before it is able to kill.

On November 21 and 22, 2014 a selection of the most productive international research groups will present their latest data. This milestone meeting will take place in the vibrant city of Genk, in the most eastern part of Belgium and a couple of miles from Maastricht.

On behalf of ECP, we cordially invite you to join us in this milestone conference.

Jaak Ph. Janssens MD, PhD
President ECP



Program (overview – 1st draft)

Part 1: Breast Cancers: a group of cancers originating in the breast

Chair: Prof. Eric de Jonge

Should we speak about breast “cancers” instead of “cancer”? Introduction.

Jaak Ph. Janssens – ECP

The well-established different molecular forms of breast cancer are treated by appropriate, often targeted, medication focused on the many cellular pathways that are differentially expressed. It is highly probable that each molecular class of breast cancer has its own type of carcinogenesis and causation.

Molecular types of breast cancers

John-Paul Bogers – Belgium

Today, 4 molecular types of breast cancer are recognized but evidence suggest that many more subtypes deserve clinical attention with regard to prognosis and treatment. In addition, separate prevention strategies should be considered as the carcinogenetic process is likely to be different.

Hereditary breast cancers

Eric Legius – Belgium

BRCA-1 and BRCA-2 mutations are well known to be related with a life-time increase in breast cancer. Other mutations have been recognized as well. How do they relate to the different molecular forms of breast cancer?

Differences in breast carcinoma immunohistochemical subtypes between immigrant Arab and European women

Jean-Christophy Noël – Belgium

Arab patients with breast carcinoma have different clinicopathological features from European patients, mainly the age of cancer presentation. Their immunohistochemical profile is also different, with more luminal B and less luminal A subtypes, suggesting that there are not only clinicopathological differences but also disparities in the expression profiling in these women.

Part 2: Early life where breast cancer originates

Chair: Dr. Peter Sieprath

Risk factors in childhood

Dan Apter – Finland

The biological clock plays an important role in the onset of puberty. Breast cancer susceptibility originates in this phase of life. The relevant hormonal and lifestyle factors that increase the risk of breast cancer could be a target for prevention.

Genistein in the diet as a preventive agent in breast cancer

Coral A. Lamartiniere – USA

Breast cancer protection in Asian women consuming a traditional soy-containing diet is derived from early exposure to soybean products containing genistein. Events, early in life, are essential for the benefits of cancer protection.

The molecular mechanisms of the dual effect of pregnancy in risk and prevention of breast cancer.

Jose Russo – USA

We have studied the genomic profile of nulliparous and parous women in the premenopausal and postmenopausal period and find that there are genes only activated during the first five years after pregnancy that may contribute to the increased risk experienced by certain women after pregnancy and at the same time we have confirmed that pregnancy induces a long lasting genomic signature that start after pregnancy that explain preventive effect. The molecular mechanism related to prevention is around the chromatin remodeling process.

Vaccination against breast cancer and its role in prevention

Brian Czerniecki – USA

Several research groups have started to develop a vaccine against breast cancer. The research has shown that a vaccine designed for immune prevention of triple-negative breast cancer (TNBC) can work to both prevent and treat the disease.

Part 3: Adult life-style factors

Chair: Dr. Marcel Verjans

Overweight and diabetes

Carlo La Vecchia – Italy

Overweight is inversely related to premenopausal breast cancer. For postmenopausal breast cancer there is an association which is stronger in elderly women. Overweight and obesity are strongly related to diabetes. Diabetes is associated with postmenopausal but not with premenopausal breast cancer. Thus, although overweight and obesity are strongly related to postmenopausal breast cancer, diabetes is only moderately related to it.

Omega 3 in the diet as a preventive agent in human breast cancer

Andrea Manni – USA

n-3 fatty acids present in fatty fish and fish oils inhibit carcinogenesis. Several molecular mechanisms have been proposed. These include suppression of arachidonic acid-derived eicosanoid biosynthesis; influences on transcription factor activity, gene expression, and signal transduction pathways; alteration of estrogen metabolism; increased or decreased production of free radicals and reactive oxygen species; and mechanisms involving insulin sensitivity and membrane fluidity.

The Israeli paradox

Niva Shapira – Israel

High n-6 polyunsaturated fatty acid intake was the presumed dietary risk underlying the 'Israeli paradox', the unexpected gap between 'ill' health and 'good' diet. Scientific literature and population health surveillance reports are reviewed with regard to breast cancer risk.

Part 4: Chemoprevention

Chair: Dr. Patricia Duvivier

SERMs and aromatase inhibitors for cancer prevention

Jack Cuzick – UK

Review of trials, summary results by subgroup, long term benefits and harms, managing side effects and issues for wider spread use

Breast cancer chemoprevention, beyond hormonal manipulations

Gad Rennert – Israel

Prevention of cancer with use of medications taken by healthy women at average or increased risk is gaining interest as other behavioral interventions have not yielded the expected reduction in incidence. While hormonal interventions with SERMs and AIs have been shown effective in RCTs, they carry a certain level of side effects and other limitations that rendered their use lower than expected.

A variety of commonly used drugs, such as aspirin and NSAIDs, metformin, statins and bisphosphonates have been suggested as potential chemopreventive agents.

Current knowledge and limitations in acquiring evidence as to their potential benefits and risks will be discussed.

[Part 5: Early detection and screening](#)

Chair: Prof. Jaak Janssens

Premalignant lesions imaging

Luc Rotenberg – France

The introduction of mammography screening has caused an increased detection of precancerous lesions such as ductal carcinoma in situ (DCIS), intraductal proliferative lesions with atypia like flat epithelial atypia (FEA) and atypical ductal hyperplasia (ADH). The detection of these lesions in large core needle biopsies becomes one of the strategies to identify individual risk.

The European Community in breast cancer prevention and early detection

Elke Sleurs – Belgium

The European Commission Joint Research Centre (JRC), in cooperation with the European Commission Directorate-General for Health and Consumers (DG SANCO) and stakeholders in the Member States, will help coordinate and improve cancer prevention, control and care processes across the EU via the standardization and harmonization of good practices.

Breast screening

Melcior Sentis – Spain

Currently, breast screening is almost exclusively performed with mammography. However, for women with dense breasts the sensitivity of mammography for detecting breast cancer is low. MRI and automated breast ultrasound imaging are considered. Personalized screening will minimize the risk of a particular patient to have a cancer missed at an early stage, resulting in decreased mortality and increased quality of life due to less radical treatment options.

[Part 6: In the breast clinic](#)

Chair: Dr. Ann Cornelis

Surgery in breast cancer prevention

Paul Guelinckx - Belgium

Refraining from some cosmetic interventions in the breast that confer increased risk as well as careful selection of high risk patients for surgery are considerations that must be taken daily by the plastic surgeon. Some criteria and advises might apply for the safety of women at risk.

Breast imaging diagnostic – update and future

Rudiger Schulz-Wendtland – Germany

New and innovative medical imaging equipment allows us to detect cancer in its earliest clinical stage. The integration of biomolecular research, better tissue acquisition and improved navigation will increase the quality of the presurgical work-up.

Candidate molecules for targeted therapy in cancer

Tom Boterberg – Belgium

Over the past decades, molecular cell biologists managed to unravel the mechanisms that cancer cells use to invade and metastasize. More recently, the knowledge of the molecules that are responsible for invasive and metastatic behavior of cancer cells has also been translated into clinical applications for the treatment of cancer. In this presentation we want to give some examples of the results of this so called translational research.

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Accreditation:

Credit points in the field of Ethics & Economics requested

Registration:

Before June 30, 2014:100 Euro
Before August 31, 2014:150 Euro
On site: 200 Euro - Reduced fees for groups
ECP members are waived from registration & lodging fee

Bank:

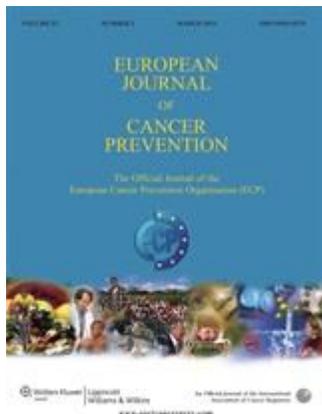
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Publications:

Some of the presentations are or will be published in the Eur J Cancer Prev:
<http://journals.lww.com/eurjancerprev/pages/default.aspx>



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