

PRESS RELEASE
2 May 2019

**PROGRESS IN THE FIGHT AGAINST METASTATIC BREAST CANCER
THE AURORA INTERNATIONAL ACADEMIC RESEARCH PROGRAMME**

About one in three breast cancers will develop metastases, which means that the disease will spread to other organs and parts of the body. This advanced form of the disease, responsible for 90% of breast cancer deaths, is more difficult to treat and remains incurable. Like a navigation device tracing the route to be followed, an ambitious research programme by BIG baptised AURORA, aims to map the path taken by cancer cells by analysing their abnormalities in a wide range of genes and at different timepoints during the evolution of the disease. If we can anticipate the paths taken, we will be able to block (with highly targeted drugs) and therefore slow down the metastatic process. If we know how to block the progression of cancer cells, we will be able to delay the process and possibly stop it completely. The initial results of this AURORA programme were unveiled today in Berlin. Read on to find out more about this academic research project, also called “The Metastatic Breast Cancer GPS”, involving more than 60 hospitals in 12 European countries.

AURORA: better understanding of metastatic breast cancer

The AURORA research programme aims to better understand the molecular characteristics and evolution of recurrent or metastatic breast cancer, in the hope of treating more effectively, and possibly blocking the disease in the future.

The initial results of AURORA were announced at the ESMO Breast Cancer Congress held on 2-4 May 2019 in Berlin, Germany, by **Dr Philippe Aftimos**, Co-Principal Investigator of the programme and Clinical Trials Development Leader at the Jules Bordet Institute in Brussels, Belgium. He presented the results for the first 381 patients included out of a planned total of 1,000. The researchers have identified molecular alterations present in excess in metastases that may be correlated with the spread of cancer and increased resistance to standard treatments.

In addition, the researchers estimate that in almost 50% of cases the genomic alterations identified could provide treating oncologists with additional information useful for patients (for example: patients could be considered for clinical trials testing new drugs targeting specific molecular alterations).

“Liquid biopsies” (blood samples) were also analysed. This technique could have an important role in characterising and monitoring the disease, since, in some patients, analysis of tumour DNA fragments present in the blood (circulating tumour DNA) revealed genetic alterations not observed in the biopsy of the tumour lesion. Analyses of the tumour immune environment are also underway and will be presented at future congresses.

“The various teams taking part in this European research programme are proud to be contributing to the future development of more personalised medicine, while building a biobank and database that will be used to find better treatments,” explained **Dr Philippe Aftimos**.

“The patients have clearly understood the importance of this research programme. They are enthusiastic about taking part in the study and are contributing generously by providing samples and accepting to be monitored regularly over a ten-year period. Virtually no-one has refused to take part and we are very grateful to all our patients,” said **Dr Mafalda Oliveira**, Co-Principal Investigator of AURORA and Clinical Investigator at the Vall d’Hebron Institute of Oncology in Barcelona, Spain.

In practice

First, clinical data and blood and tumour tissue samples are collected from all patients participating in the AURORA programme. These samples gathered by different hospitals in various countries, are sent systematically and as soon as they are collected to a single central laboratory. It is here that their genetic information (DNA) is screened using the latest sequencing techniques. Researchers will be focusing on 411 specific genes in order to detect possible alterations. A multidisciplinary group of experts in breast cancer and genetics are interpreting the results with the aim of identifying genetic abnormalities present in the samples that could have contributed to the progression from primary tumour to metastatic cancer.

Another unique aspect of the AURORA programme is that genetic analyses are performed both on samples taken when the breast cancer is first diagnosed (primary tumour), and on metastasis samples taken following recurrence of the disease. In addition, blood samples are collected from patients every six months for up to ten years. **This will allow researchers to effectively monitor the evolution of the disease and identify any changes in cancer cells.**

A wealth of data

This research programme will last ten years, during which time **AURORA will accumulate some 30,000 blood and tumour samples** and generate thousands of clinical and genetic data to improve our understanding of metastatic breast cancer.

All genetic analyses will be carried out in the same laboratory throughout the study, ensuring consistency of analysis and avoiding differences in interpretation. An IT platform has been created for AURORA, allowing the doctors and researchers involved to not only record clinical data about their patients but also consult the genetic analysis reports sent by the central laboratory in real time. This complex logistical system was set up in collaboration with the members of the BIG network.

The researchers hope their findings will pave the way for new clinical studies in order to develop more targeted and appropriate treatments for people with metastatic breast cancer, essential for giving hope to the thousands of women and men affected by the disease.

International collaboration

With already 20 years of research experience, Breast International Group (BIG) is the largest network of academic research groups dedicated exclusively to breast cancer.

The AURORA programme is being led by BIG in collaboration with the Clinical Trials Support Unit of the Jules Bordet Institute and the Frontier Science Technology & Research Foundation.



It is a purely academic programme made possible by generous contributions from the Breast Cancer Research Foundation®, Fondation Cancer (Luxembourg), the Belgium National Lottery, Fondation NIF, the Webb family and individual donors.

Some figures:

AURORA: Metastatic Breast Cancer GPS

- 30% of breast cancers progress to an advanced stage/become metastatic
- 1,000 women and men with advanced (metastatic) breast cancer will be enrolled for the purposes of the study
- 30,000 blood and tumour tissue samples will be collected in total
- +700 patients have already been included (as of 15 March 2019)
- 411 genes will be analysed in primary tumours and in metastatic tumours
- 12 countries will take part (Belgium, Germany, Iceland, Italy, Luxembourg, Portugal, Poland, Spain, Sweden, Switzerland, United Kingdom and Austria)
- +60 hospitals are participating in the study

www.BIGagainstbreastcancer.org

As **BIG against breast cancer** is celebrating **its 20th anniversary this year**, there's no better time than now to spread our message of **hope** and **progress**. To mark this occasion, we have produced a short, animated video. Please click here to view and share it: <https://bit.ly/2RM9IPM>

About BIG against breast cancer (BIG = Breast International Group)

The Breast International Group (BIG) is an international not-for-profit organisation for academic breast cancer research groups from around the world, based in Brussels, Belgium.

Global collaboration is crucial to make significant advances in breast cancer research, reduce unnecessary duplication of effort, share data, contribute to the faster development of better treatments, and increase the likelihood of cures for patients. Therefore, BIG facilitates breast cancer research at international level, by stimulating cooperation between its members and other academic networks, and collaborating with, but working independently from, the pharmaceutical industry.

Founded by leading European opinion leaders in 1999, BIG now constitutes a network of 59 collaborative groups from Europe, Canada, Latin America, Asia and Australasia. These entities are tied to several thousand specialised hospitals and research centres worldwide. More than 30 clinical trials are run or are under development under the BIG umbrella at any one time. BIG also works closely with the US National Cancer Institute (NCI) and the North American Breast Cancer Groups (NABCG), so that together they act as a strong integrating force in the breast cancer research arena.

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