



Major advance in research regarding lobular breast cancer

A better molecular characterisation of lobular breast cancers to optimise patient care



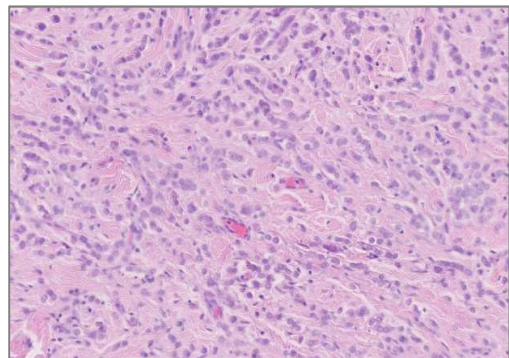
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« Dr Christos Sotiriou and Christine Desmedt, Jules Bordet Institute »

Brussels, 1 March 2016 - Researchers¹ at the Jules Bordet Institute have published, this 29 February in the *Journal of Clinical Oncology*, the promising results of a four-year study on lobular breast cancers, a form that accounts for between 10% and 15% of all breast cancers. This study suggests that lobular cancers could benefit from a different therapeutic approach to that adopted for other types of breast cancer. At present they are treated in the same way.

Lobular breast cancer, a poorly-studied cancer that nevertheless accounts for between 10% and 15% of all breast cancers.

There are several different types of breast cancer at the histological level. These subtypes are defined by the pathologist when he examines the tumour through the microscope. Lobular breast cancer is the second most frequent histological subtype after ductal cancer. Lobular cancers are known to have a different clinical behaviour. They tend to recur later than ductal cancers and preferentially in other organs. To date, most



Microbiological aspect of a lobular breast cancer

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research has concentrated on ductal cancers. This is why lobular cancers continue to be treated in the same way as other types of breast cancer.

The study permitted a better molecular characterisation of lobular breast cancers

Researchers at the Jules Bordet Institute conducted research on the largest number of lobular breast cancers studied to date, totalling 600 patients from the Institut Jules Bordet, the Université Catholique de Louvain and two centres in Milan and Marseilles.

Carried out in cooperation with the Wellcome Trust Sanger Institute in Cambridge, Milan University and Institute of Cancer, and the KU Leuven, the study made it possible to identify the various mutations of the genes specific to lobular cancers by using new DNA sequencing technologies. The identification of **these genomic anomalies enriched in lobular cancer could improve the therapeutic care of patients.**

What are the potential clinical implications of the trial?

At present, the choice of treatment for a breast cancer is based on the tumour characteristics and notably the oestrogen receptor and HER2 status. In particular, patients whose tumours express the oestrogen receptor will, in general, be treated with hormone therapy. When the tumours overexpress HER2, patients will receive a treatment specifically targeting this protein (Herceptin). On one hand, this study showed the presence of changes to the oestrogen receptor gene or to genes involved in its regulation, that were frequent than in ductal breast cancers. It is possible that the presence of these mutations could be linked to a response or resistance to the various hormone therapies and could influence the choice of hormone therapy. This will be tested in the near future in the context of clinical trials. Also, this study identified more frequent mutations in *HER2* and *HER3* genes in the case of lobular cancers. Our researchers observed that the presence of changes in the *HER2* genes was associated with a high risk of recurrence in the short term. Patients whose tumours show mutations in the *HER2* and *HER3* genes could benefit from specific treatments that already exist. The results of this study show that a better molecular characterization of lobular breast cancers could have major implications for the personalization of the therapeutic care of patients.

The study was financed principally by Susan G. Komen, the Friends of the Bordet Institute, the National Fund for Scientific Research (FNRS), the MEDIC Foundation and the Breast Cancer Research Foundation (BCRF).

Attached : Photo of Dr Sotiriou and Christine Desmedt

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More information about the Institut Jules Bordet

Pride in its past, focused on the future

For over 70 years, the Jules Bordet Institute has been providing its patients – and the general public – with a wide range of state-of-the-art strategies for dealing with cancer.

The Institute, which is an academic one, combines three essential missions: treatment, research and teaching. Its international reputation draws talented people to the Institute, who discover an environment conducive to fulfilling their human and professional qualities. Driven by a spirit of innovation, the Institute has continuously participated in the development of new diagnostic, therapeutic and preventive techniques, which are quickly made available to the public.

International collaborative research

Patient-oriented research includes the 120 clinical studies vetted by the Institute's Ethics Committee, on which patients are represented, as well as the activities of 5 translational and basic research laboratories. Aware as it is of the challenges of research, the Institute has participated in the creation of several international networks: the European

Organisation for Research and Treatment of Cancer (EORTC), the Multinational Association of Supportive Care In Cancer (MASCC), the Breast International Group (BIG), the European Lung Cancer Working Party (ELCWP), and the Organisation of European Cancer Institutes (OECI).

A Comprehensive Cancer Center

Research activities coexist with teaching, with both being closely associated with care and treatment. Physicians in the various diagnostic and therapeutic disciplines, nurses, and other healthcare professionals work closely together in a structure organised around the well-being of the patient. The Institute provides an exhaustive scope of services to its patients, from primary prevention to physical and psychological rehabilitation, encompassing relatives and taking into account socio-economical parameters.

Quality oriented

Awarded with the OEI Accreditation label, the Institutes carries out a global quality management policy, with specific attention paid to certain areas: radiotherapy, nuclear medicine, transplantation in haematology, clinical biology, pathology and molecular biology laboratories.

New Bordet in 2018

The Institute is part of the public hospitals network in Brussels (IRIS) and the Université Libre de Bruxelles. With its 154 beds entirely devoted to cancer treatment, every year, it looks after 6,000 hospitalised patients, carries out 75,000 consultations, and provides over 12,000 outpatient treatments. To respond adequately to the demographic, epidemiological and scientific developments of the future, it plans to move to new facilities in 2018, thereby increasing its hospital-bed capacity to 250.

Our teams are entirely engrossed in their missions and put respect for human life beyond other considerations. The Institute is above all a point of contact between caregivers and patients. They share a project: to see that life wins out, by jointly taking on the multiple uncertainties of the medical art in which they have put their hopes.

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