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## Editorial:

# HER2/NEU AND TRASTUZUMAB

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### [Spanish version](#)

Translational research, mainly through Clinical Trials, must be led by multidisciplinary clinical and basic researcher teams<sup>1</sup>, which include, pharmacologists, molecular biologists, biochemists, specialists in image diagnosis, epidemiologists, statisticians, computer scientists, pathologists, etc. The Research Unit, which centralises the control of clinical trials in a health centre, must work to achieve a synergy capable of creating, maintaining and completing a circle of positive interactions, providing methodological help and scientific and logistical support. It is desirable to achieve good collaboration between the laboratories that are investigation new drugs, the clinical units who directly treat the patients and the Hospital central services.

The molecular basis of carcinogenesis is being rapidly explored and documented. We already have immunological targets, biological and hormone markers available in the clinical field, helping us in the development of conjugated antibody treatments, which are changing the panorama in Oncology. One of the most significant oncology discoveries regarding breast cancer in the last 50 years, has been the identification of oestrogen and progesterone receptors. The patients with tumours that express these receptors will probably benefit more from hormone therapy than the patients who do not<sup>2</sup>.

As with oestrogens, human epidermal growth factor receptor 2 (HER2, or HER2/neu), a protein belonging to the family of epidermal growth factor receptors, seems to be an equally valuable prognostic and predictive tool in the treatment of breast, lung, colon tumours, etc. [3](#), [4](#), [5](#), [6](#).

It is a protein with an amplification/overexpression that is associated with aggressive tumour growth and a poor prognosis. This issue of the Electronic Journal of Biomedicine, contains an exhaustive review on the subject, carried out by [San Miguel et al](#). The threat that HER2/neu represents is being converted into an opportunity, owing to the development of humanised monoclonal antibodies which will become therapeutic targets for new drugs such as trastuzumab. Before starting treatment with this drug, the tumour tissue has to be examined using histochemistry or *in situ* hybridisation, to see whether there is overexpression of HER2 or not, which used to be done, up until now, when metastatic disease appeared.

Given the clinical benefits and economic savings, a potential to prevent the disease recurring and optimising the therapy from the earliest phase, an economic analysis was performed with the

objective of determining if it was more worthwhile to investigate the marker at the time of the initial diagnosis. To do this, the cost equivalents of the determination of HER2 in three Canadian Pathology Departments were investigated; collecting the core biopsy, transporting it, carrying out new histological sections by the laboratory personnel, and reviewing the preparations of the tumour and the selecting of a representative core by the pathologist. The results of the economic assessment determined that the evaluation of the HER2 marker in all patients with stage I-III breast cancer at the time of the initial diagnosis, instead of doing it when metastasis appears, would provide a significant net economic saving. Also, the effective use of this prognostic indicator could also lead to the selection of the optimum chemotherapy, where there is room for additional cost savings and improvement in patient care [7](#).

Health political legislation and administrative decisions have a direct impact on Medicine. These political health decisions are increasingly being taken by public health experts, economists, social security managers, etc. [8](#). Obviously, the art of curing and adequate distribution of resources, demands a combination of many professionals and experts in all these areas. However, taking part in the decision making as regards health by non-health professionals, does not exempt the doctors from always being willing to adequately influence the development of medical politics, particularly, when it involves, the prevention, diagnosis and treatment of the patient.

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