

A method providing accurate information about the risk of developing brain metastasis in an early state, which can lead to a reduction of the incidence of breast cancer brain metastasis.

BACKGROUND

Cancer is a multistep process and occurs as a result of the loss of control of cell division, leading to initial tumor formation, which can then spread and develop a tumor in a distant organ or metastasis. This metastatic spread is responsible for most cancer-related deaths. Clinical management of cancer can be aided by prognosis markers (assess risk of the disease progression) and by therapeutic predictive markers (indicates sensibility or resistance of a cancer to a specific treatment). Currently, the only recommended therapeutic predictive markers in oncology are ER (estrogen receptor) and PR (progesterone receptor) status for selecting hormone sensitive breast cancers, and HERB-2 for identifying breast cancer patients who may benefit from trastuzumab treatment. One-third of the patients with breast cancer will develop CNS metastasis and this often occurs when they are responding to therapy at other sites or have a stable disease. Cerebral metastasis occurs in 10-15% of breast cancer patients with advanced disease and has recently become a significant clinical problem.

THE TECHNOLOGY

Analysis of metastatic tissues, the use of bioinformatic approaches and the characterization of protein expression in tumors with site-specific metastasis have afforded to the inventors to find markers which provide specific information about whether cancer cells have a predisposition to metastasize. We have developed a method for determining the risk of developing brain metastasis in a subject diagnosed with a breast tumor.

ADVANTAGES

- Saving costs and adverse events on patients not suitable for the current therapies.
- The cost of based-on-arrays kits are decreasing.
- Positive Patent Search Report.

STATE OF DEVELOPMENT

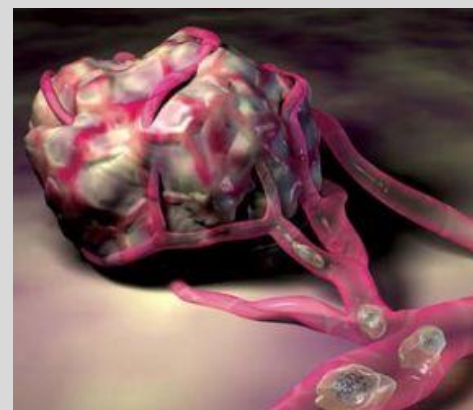
The method has been validated in a sample of 300 patients from 3 different hospitals with positive results. Further steps should be the development of a kit and their PoC.

INTELLECTUAL PROPERTY

The Intellectual Property Rights have been transferred to Dr. Àngels Sierra Jiménez.

MARKET OPPORTUNITY

According to the International Agency for Research on Cancer, Breast cancer is the second most common cancer in the world and, by far, the most frequent cancer among women with an estimated 1.67 million new cancer cases diagnosed in 2012 (25% of all cancers), and a mortality of 522.000 patients worldwide. It can be assumed that up to 30% of metastatic breast cancer patients will experience brain metastasis during the course of their disease.



COMMERCIAL OPPORTUNITY

The rights of this technology had been already assigned.

CONTACT

PhD. Àngels Sierra Jiménez
asierrajim@gmail.com

KEYWORDS

Breast cancer, brain metastasis.

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