

Personalized treatment prolongs the life of lung cancer patients

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The National Cancer Institute (INCan) has progressed from a rate of nine months of survival to 30 with personalized treatments for patients diagnosed with lung cancer in metastatic stage, i.e., when the disease has spread to different parts of the body.

In Mexico, as elsewhere, it is possible to give personalized treatment such as biomarkers and oral drugs to [patients](#) with this disease that have presented mutations in the epidermal growth factor.

"Currently, treatments against this disease are not the same for all patients as it was before with chemotherapies, today every person is given individual treatment," explains Gerardo Arrieta Oscar Rodriguez, head of the Laboratory of Experimental Oncology and Translational Medicine Studies at INCan.

According to the specialist at INCan, from tumor tissue samples, DNA was extracted to perform the test called PCR, through which mutations that the neoplasia has (abnormal mass of tissue) are analyzed.

"It's important to find and analyze mutations to know what the patient is susceptible to and, based on this, give a personalized treatment, for example, there are mutations with an epidermal growth factor that is the receptor of tumor cells, and the person that has it is submitted to a biomarker treatment that is less toxic than chemo and radiation treatments", explains Arrieta Rodriguez.

To determine the frequency of mutations in tumors from people in Mexico and Latin America, INCan has collected samples from five thousand patients (in Mexico, Argentina, Peru, Costa Rica and Colombia).

And in Mexico the frequency of [mutations](#) in patients with [lung cancer](#) is 35 to 40 percent, leading to a better response to personalized treatment, and knowing to what treatments the patient will respond.

"We have achieved an improvement of 80 percent in the metastatic stage and three times the survival, i.e., 30 months with good quality of life, while with chemotherapy the response is just 30 percent in some cases," said Arrieta Rodriguez .

Besides, the researchers further investigated the expression of molecules on the surface of [tumor cells](#), and the evaders of the immune system, to be blocked in the future.

The specialist notes that in the next decade it will be possible to take the tumor and analyze it with massive sequencers and detect dozens of genes in order to say, "this patient is a candidate for this treatment, it will not work on this one and let's give this one this " .

The research group is currently involved in the project "Science that breathes", which has made available to the public a questionnaire to assess quality of life in people who have or have had cancer, looking to combine a lot of data to make better therapeutic decisions.

Provided by Investigación y Desarrollo

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