

Precision Diagnosis –
Its Importance for Lung Cancer Patients

LUNG CANCER AND TREATMENTS

NEWSLETTER





On November 23rd, under the coordination of the **NGO Esperantra** and the **Latin American Union against Lung Cancer - ULACPUL**, the Educational Event:

"Precision Diagnosis, its Importance for Lung Cancer Patients" was held.

Dr. Alberto Fernández Villar, Chief of the Pneumology Service of the Centro Galego - Spain; Dr. Edgardo Santos, medical oncologist at Florida Precision Oncology - USA; and Dr. Rodrigo Mota, oncologist in the Thoracic Neoplasm Service - Peru, participated in the event.

The main objective of this event was to share new results in diagnostics and drugs to fight lung cancer, with patient leaders from Costa Rica, Bolivia, Honduras, Nicaragua, Mexico, Colombia, Dominican Republic, Brazil and the rest of Latin America.

Emphasis was placed on the importance of updating treatments for Stage 4 lung cancer patients and the new drugs being used to achieve survival.



SPAIN |

Precision Diagnosis in Lung Cancer - Best Practices

Dr. ALBERTO FERNÁNDEZ VILLAR – Chief of the Pneumology Department, Álvaro Cunqueiro Hospital, Vigo



- Lung cancer is the leading cause of death in the world, doubling and tripling other types of cancer.
- New treatments are being implemented to fight lung cancer with drugs and there are new ways of recognizing this disease.

- Accurate diagnosis of the disease is necessary to improve the therapeutic approach to lung cancer and improve prognosis. To this end, early multidisciplinary evaluation should be considered.

Lung cancer is the leading cause of mortality in the world, doubling and tripling other prevalent tumors such as colon, rectum and breast cancer. The main reason for the high mortality of cancer patients is the late diagnosis. Most of them are detected with advanced disease or metastasis.

In recent years, progress is being made in the generation of targeted therapies, immunotherapies and multimodal treatments. Likewise, the application of new techniques to diagnose lung cancer is improving.

Recently, combination therapies (hormonotherapy and immunotherapy) are being approved and applied in patients with systemic disease and also in those with locally advanced disease.

Lung cancer is a disease with a wide variety of symptoms. About 15% of the diagnosed cases occur when the patient has a metastatic infection. Cough or hemoptysis occurs in less than 50% of cases.



To confirm the diagnosis and molecular characterization it is important to select an appropriate technique that allows rapid medical action. One of the main techniques to pinpoint the diagnosis of a cancer is transthoracic needle-guided biopsy.

Some of the most common comorbidities in lung cancer patients are smoking, dementia, emphysema, cardiovascular disease, diabetes, chronic hepatitis, pneumoconiosis, pulmonary fibrosis, among others. To combat these comorbidities, early and accurate diagnosis is essential.

The most transcendental moment for a lung cancer patient is when a multidisciplinary decision is made to make a diagnosis.

Esperantra pacientes como tú

Importancia de la organización en el pronóstico

Impact of organisation and specialist service delivery on lung cancer outcomes
Thorax 2019;74:546-550.
 Jara Blazquez Adria,^{1,2} Aron Khachem,^{3,4} Paul Beckem,⁵ Richard Hudson,⁶ Noel Nixon,⁷ Susan V Harden,⁸ Ian Woodhouse^{9,10}

Auditoría clínica UK 2015 > 33.000 pacientes, 129 centros
Evalúan la disponibilidad de 11 ítems y elaboran un score

1 neumólogo por cada 200 casos nuevos	1 radiólogo de tórax con 1/3 de dedicación	1 oncólogo médico con 1/3 de dedicación	1 oncólogo clínico con 1/3 de dedicación
1 enfermera gestora por cada 80 casos nuevos/año	Comité diagnóstico multidisciplinar independiente	Disponibilidad de PET en el centro	Disponibilidad de EBUS en el centro
Disponibilidad de toracoscopia en el centro	Disponibilidad de técnicas moleculares en el centro	Disponibilidad de prueba de esfuerzo cardiopulmonar en el centro	

Alberto Fernández Villan

In conclusion, **precision diagnosis** is key to improving the therapeutic approach to lung cancer and improving prognosis. This concept should include not only the evaluation of **tumor type and molecular characterization**, but also correct staging and functional evaluation of patients. This requires the availability of a number of experienced professionals.

U.S.A. |

BIOMARKERS AND PRECISE DIAGNOSIS

Dr. EDGARDO SANTOS – Oncologist at Florida Precision Oncology



- It is important to have the whole molecular picture of the patient To start the appropriate treatment. It is not effective to start a treatment with immunotherapy when a patient has a different pathology.
- 25% of lung cancer patients have not smoked, which generates the need to analyze in detail the lung cancer pathologies of each patient.

Currently, there are nine pathways of lung cancer that can be targeted with drugs: EGFR, ALK, ROS1, BRAF, RET, MET, NTRK, KRAS, HER2 and NRGI. For them, there is a large list of drugs that can be used to fight this disease. However, they are not easily accessible to all patients.

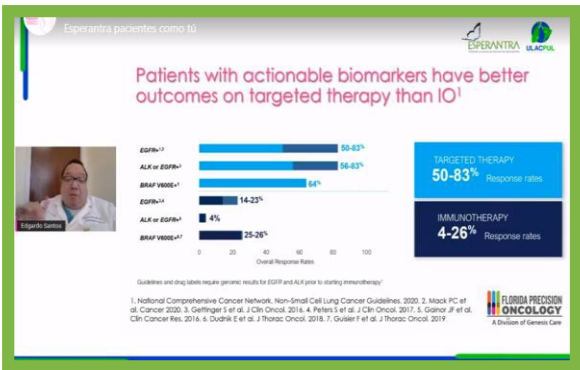
The tests used to find these pathologies are immunohistochemistry (IHC), fluorescence in situ hybridization (FISH), PCR tests and the recently used Next Generation Sequencing (NGS). Each of these forms of analysis can be applied in particular genetic cases of each patient.

The clinical utility of NGS is to find the specific mutation and analyze patients once they begin to progress, to see what their mechanism of resistance and use a drug and to combat this resistance. It also makes it possible to search for new targets and to analyze the tumor in greater depth. This new molecular study tool allows medicine to be more precise and personalized.

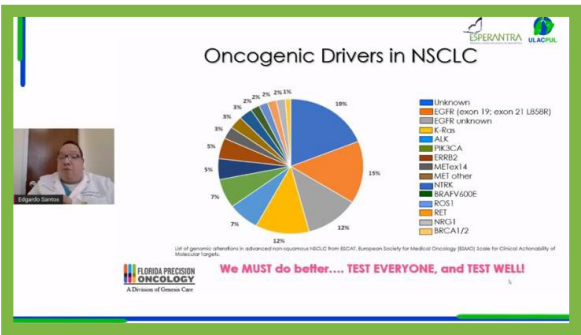
Genetic analysis has begun to be recommended for patients with squamous cancer, which allows the analysis of mutational variability of each patient's cancer cells.



When patients are treated with targeted therapy, if the patient has a mutation, the response is 50-83%. Whereas when a patient is treated with immunotherapy the response can be negative. The patients' type of pathology should be taken into account as well as the hepatological and molecular study to be performed beforehand.



There are many mutations to be identified before starting any treatment. Molecular studies should be performed as a priority in patients with stage four. The lack of sufficient molecular tissue cannot be an excuse to perform the necessary studies, since liquid biopsy is also available.



To improve the survival curve of patients with stage four lung cancer, it is necessary to start applying the new types of molecular analysis. Recently, it has been found that in the United States 55% of lung cancer patients had a molecular study performed in the first line.

TIMELY PRECISION DIAGNOSIS AND IMPACT ON PATIENT SURVIVAL

DR. RODRIGO MOTTA – Oncologist in the Thoracic Neoplastic Service.



- According to the latest WHO report in 2020, mortality among cancer patients remains high, while the percentage of diagnosed patients remains low.
- EGFR mutation in Latin America is much higher than in the rest of the world. In the country alone, a mutation rate of 30% to 40% has been reported.

- At the national level, new types of treatment that could be applied to cancer patients are not provided due to their high costs for public insurance.

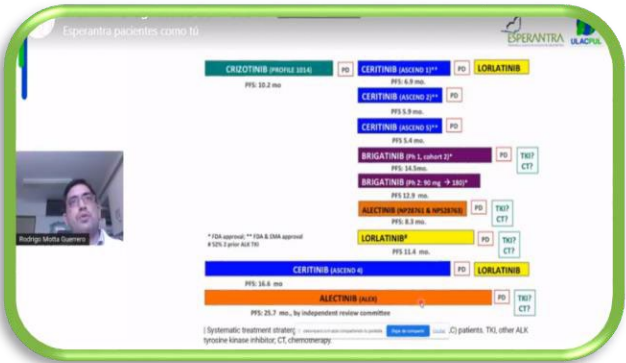
It is important to address the types of mutations in advanced lung cancer patients. This is a highly immunogenic disease, with high expressions of antigens.

About treatment, recent studies have shown that Osimertinib has effective results for first-line treatment. This drug is too expensive to use in our country; thus, it is only used in the private sector.

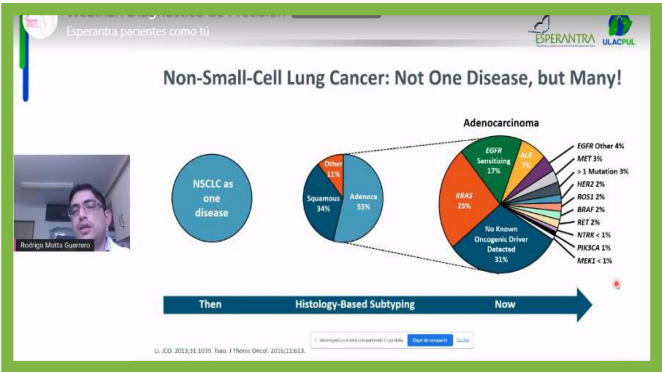
It is important to define the molecular mutation in a patient with lung cancer. One unusual mutations is the ALK, which reports a variation of less than 5% worldwide, unlike the EGFR variation. It is necessary to analyze and differentiate the mutational variation between Latino and non-Latino patients.



Recent studies show that new drugs - such as Ceritinib, Alectinib and Lorlatinib - are effective against different genetic mutations in lung cancer. However, these are not being used in public health insurance because of their cost.



Immunotherapy treatments are one of the most expensive treatments. Medications for immunological treatment are highly expensive in our country. These drugs are only available to patients with private insurance.



Tests are also little accessible for lung cancer patients in our country.

Prevention ends up being the best way to treat lung cancer.



✉ informes@esperantra.org

☎ (51 1) 680 - 4888

📞 (51) 924 025 815

🌐 www.esperantra.org

🐦 [Esperantra Pacientes Perú](#)

📘 [Esperantra Pacientes con Enfermedades Crónicas no Transmisibles](#)

📷 [esperantra_ong](#)