
The Lung Cancer: Symptoms, Diagnosis, Causes And Treatment

Introduction

As a point of departure, to understand how a tumour appears in our lungs we have to know how is our lungs anatomy. As we all know, the lungs are two organs located in the thorax and they carry out the breathing. They are separated by an area called mediastinum, where the heart, trachea, esophagus and blood vessels are founded.

The air reaches the lungs through the trachea which is divided in tow principal bronchus, one on the right side and another on the left side, as the lungs.

But, how appears a tumour? Our organism is constituted by organs, which are made up by cells as a whole. These cells are regularly dividing in order to replace the aged or dead ones. This process is regulated by some mechanisms which indicate when the cells have to divide. If these mechanisms are modified in a cell, its descendants will start an uncontrolled division that will provoke a tumour or a nodule.

Moreover, these cells apart from growing without any control, they can move and proliferate in other parts of the organism, what is called metastasis, it is known as a malignant tumour.

In addition, when these malignant cells reach and implant in remote organs, such as the lungs, is when we talk about lung cancer.

Symptoms

In most cases, a malignant tumour in the lung is diagnosed when the cancer lung symptoms force the patient to go to the doctor. Due to the fact that the symptoms are late, the lung cancer is diagnosed in advanced stages.

The first symptoms are:

- Cough: is the most common one of this type of cancer. It is produced by bronchial irritation and sometimes goes with expectoration. It is typical of tumours located in the central area of the lung.
- Hemoptysis or bloody sputum: is the blood or bloody mucus expulsion from the respiratory tract. This is one of the most striking symptoms and thanks to it the patient goes to the doctor.
- Chest pain: it is produced when the tumour affects the thoracic wall or the pleura. It is frequent of tumours located in the most circumferential area of the lungs.

Diagnosis

The first step for the lung cancer diagnosis is to make the medical history to the patient.

Secondly, we need to look for signs or symptoms that may correspond to the illness doing a physical exam.

The most usual tests are:

- Blood and urine test: they are the first ones to be made. It's objective is to know about the patient's overall health, if he or she has any renal or hepatic function alteration.
- Chest radiography: this is an indispensable test in the lung cancer diagnosis. The nodules or patches onset in the lungs, mediastinum changes or pleural effusion are some suggestive signs of this illness.

Bronchoscopy or fiber bronchoscopy: it is used to inspect the trachea and bronchi from inside of them. It is realized through a pliant tube called bronchoscope in the respiratory tract. Inside of the tube there is fiber optic, which allows the specialist to see all the path from a TV monitor.

Prognosis and causes

The lung cancer was the cause of 1200000 deaths in the whole world in 2002, being the first cause of death in men and the second in women.

Lung cancer survival:

According to the last data published, a 10,7% of the patients who suffer from lung cancer, they survive more than 5 years. Together with the liver, pancreas and esophagus are the worst prognosed tumours due to the difficulty of realising an early diagnosis. The Spanish survival is similar to the European.

Lung cancer mortality:

18000 people die per year due to this disease in Spain, about 16000 man and 2000 women, which is the first cause of death for men and the sixth for women.

The Spanish mortality is higher than in the rest of the world, it is only overcome by the eastern countries in the male sex. For women, is one of the lowest in the world, but it is increasing since the 90s.

The death average age is 68 years in men and 66,6 in women.

There are many risk factors and possible causes of lung cancer. Some of the principal causes are: tobacco between the 80-90% of lung cancer cases take place in smokers. As a consequence, stop smoking reduces the risk of lung cancer appearance.

Moreover, the possibilities of developing lung cancer increases with the age and men have a rate three times higher than women. This is because women started to smoke from 30 to 40 years later. And finally, pollution, it is said that around 500000 deaths caused by lung cancer and 1,6 million deaths caused by COPD (chronic obstructive pulmonary disease) can be attributed to the air pollution.

Treatments and effects

The lung cancer treatment, as in the rest of tumours, is multidisciplinary. Many specialists work together to combine different therapies. The type of the treatment depends on the illness 'stage, type of tumour (microlithic or non-microlithic) and the patient 's characteristics.

The most frequent treatments are

- Surgery: is the first option and the most effective in non-microlithic cases. The type of surgery depends on the size, location and extension of the tumour. The non-microlithic surgery has complications and adverse effects. They aren't usually a problem for the patient but they modify his or her quality of life.
- Radiotherapy: this is the ionizing radiation employment for the local treatment of certain tumours, which use X-ray with high doses of radiation. It's objective is to destroy the tumour cells causing the less damage to the healthy tissue around them. Some of the secondary effects that can appear are: exhaustion, skin reactions, hair loss...
- Chemotherapy: antineoplastic and chemotherapy drugs are used in this technique. They reach to the majority of the tissues and there, they carry out its function over the health and malignant cells. Due to this fact, it produces secondary effects, such as hair loss, mouth sores, increasing of infections and exhaustion.

Conclusion

As I have already explained, the lung cancer isn't a simple disease but it isn't mortal if it is diagnosed early and the medical treatments are applied, which save thousands of lifes each year.

To be honest, we have made a huge progress finding new treatments but there is still a great deal to do. We have to do our best to reduce the disease numbers and to increase the scientific study budget in order to develop new cures and to improve the actual ones.

Bibliography

1. Aecc.es (Internet). España: Madrid; Disponible en: <https://www.aecc.es/es>
2. Medlineplus.gov (Internet). Rockville Pike, Bethesda;(actualizado 21 agosto 2019) Disponible en: <https://medlineplus.gov/spanish/lungcancer.html>
3. Mayoclinic.org (Internet). Phoenix/Scottsdale; 13 Agosto 2019. Disponible en: <https://www.mayoclinic.org/es-es/diseases-conditions/lung-cancer/diagnosis-treatment/drc-20374627>
4. Cancer.or (Internet).2019. Disponible en: <https://www.cancer.org/es/cancer/cancer-de-pulmon.html>