

Pancoast Tumor: Clinical Manifestations and Surgical Management

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ABSTRACT

Pancoast tumors are an interesting pathological entity when it comes to talking about mediastinal tumors, the alterations they cause are deeply rooted in their location. The development of surgical techniques as well as new antitumor therapies have created a pillar on which therapy that generates high survival in these patients could be based. However, these treatments also carry their risks.

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INTRODUCTION

The term "Pancoast tumor" or also called superior sulcus tumor encompasses a wide variety of tumors in the apical area of the mediastinum. Due to its location and the structures involved, it is not uncommon for there to be extrathoracic manifestations, such as the syndrome called "Pancoast-Tobias syndrome". Which is characterized by severe pain that does not subside in the shoulder and arm where the distribution of the nerve trunks that innervate the affected regions is shared. Another of these, the best known, is Horner's syndrome (with its classic triad: ptosis, miosis and anhidrosis) and atrophy of the intrinsic muscles of the hand on the affected side.^{1,2,3}

What makes these tumors unique is their atypical presentation in specific areas of the rib cage. For this reason, surgical treatment is difficult, due to the structures present, and dissection becomes a challenge at the time of surgery. Treatment methods have advanced by leaps and bounds, from thinking that it was inoperable until the first case of successful surgical removal in 1956. From this point on, various surgeons have described different dissection techniques accompanied by radiotherapy with satisfactory results. Advances in surgical techniques added to advances in radiotherapy have made this combination the gold standard in treatment today.^{3,4,5}

Because the thoracic cavity is a compartment of limited size, compression symptoms cause early symptoms to be related to tumor extension. Such manifestations can escalate from cough, bloody expectoration accompanied by respiratory distress. If we talk about another common extrathoracic

symptomatology, it is shoulder pain on the affected side, being an extremely common reason for consultation. As the tumor grows and affects more structures, there may be paresthesia and weakness of the affected limb. In advanced cases, Horner's syndrome may occur, but only in approximately 15%. Among the different diagnostic methods are the chest X-ray, however it is easy for the tumor lesion to be overlooked.^{6,7,8}

For this reason, chest tomography is the initial method if a mass in the mediastinum is suspected, and thus confirm the suspected diagnosis. The use of nuclear magnetic resonance is reserved in case of suspected invasion of the brachial plexus, adjacent vessels, spine, among other structures, due to its ability to achieve a more precise evaluation of the local extension of the disease and the extent of the compromise. vascular. But despite all the methods mentioned, the most sensitive method to diagnose this type of tumor is percutaneous needle biopsy, those obtained with a fiberoptic have given very poor diagnostic capacity.^{9,10,11}

The histopathological study is mandatory if you want to start treatment and establish a diagnosis.¹²

This tumor has a specific growth pattern, which has affected the medical management that has been given to it. Since the first descriptions of this pathology, it had been considered inoperable (due to its complex surgical approach at that time) and rapidly fatal (due to its rapid growth and clinical deterioration). It was not until the 1950s that the best therapies at that time were combined: resection and radiotherapy together, achieving not only the patient's survival at 5 years, but in that time the tumor had completely

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remitted, since then this combination has been preferred for the treatment of these tumors.^{13,14}

However, surgical treatment has been limited to only tumors that affect ribs, once vessels or nerves have been invaded, surgery is contraindicated. However, the incorporation of laminectomy has helped to make local tumor control more acceptable, and even with a multidisciplinary team, better tumor remission could be achieved. After years, the treatment of choice has remained similar: a combination of radiotherapy cycles to alleviate the symptoms together with radical surgical resection, obtaining excellent results.¹⁵

COMPLICATIONS

Similar rates are available for mortality and mortality in matters of thoracic surgeries; however some trials have shown relatively low mortality rates at present.¹⁵

SURGICAL COMPLICATIONS

Some of the most common are surgical wound infection, dehiscence of the wound and among some rarer but no less important are the bronchopleural fistula associated with high doses of radiotherapy. This has been corrected by innovating new radiotherapy techniques to be more precise as well as the ability to prevent skeletonization. Chest wall resection as well as pleural adhesion could cause bleeding and lead to hemothorax.¹⁶

COMPLICATIONS OF CHEMO-RADIOTHERAPY

The complications of chemo-radiotherapy are associated with the amount of time of exposure to these drugs, such as chemical pneumonitis, peripheral neuropathy, infections by opportunistic organisms due to immunosuppression and in some severe cases, hematological toxicity can lead to different anemic states. that overcome the disease.^{16,17}

CONCLUSIONS

Pancoast tumors were initially a feared and extremely deadly entity due to their rapid growth as well as the clinical manifestations generated by their location. However, today with such advanced imaging methods, the surgical techniques developed as well as the combination with new radio and chemotherapy schemes make this disease much less deadly than many years ago. Early symptomatology as well as the clinic reported by the patient is key to making an early and unequivocal diagnosis.

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