



# Introduction to the CCTS special series “The treatment of locally advanced lung cancer”

The locally advanced non-small cell lung cancer (NSCLC) has always been a middle ground between surgeon and medical therapy. In the clinical practice, the approach and management of this category of patients represent the moment of greater interaction between different speciality as well an extremely stimulating pathway. Finally, the progress of surgical and anaesthesiologist techniques and the novelty in radio-chemotherapy make a continuous updating necessary. In this scenario, the present special series offers an interesting overview from the different actors.

Historically, most patients with locally advanced NSCLC were considered to have poor outcomes, because only a minority of these cases were suitable for surgical resection. Platinum-based chemotherapy has long been the standard of care for the initial treatment of advanced NSCLC. A subset of patients could benefit from surgery after induction therapy, whereas in case of unresectable disease, radical radiotherapy was the cornerstone of treatment, preferably in a multimodal treatment approach with concomitant chemotherapy. In the last years, the development and the synergia of different therapeutic approaches has led to a radical change of this paradigm: due to the implementation of strategies, nowadays a considerable percentage of patients can benefit from integration of surgery with medical treatments and/or radiation therapy.

By definition, locally advanced NSCLC includes a variety of heterogeneous situations, ranging from pathologic N2 disease to direct invasion of heart, great vessels, trachea, oesophagus, diaphragm, vertebral bodies and chest wall, including superior sulcus tumour. The treatment of Pancoast tumours represents one of the major challenges in thoracic surgeons' practice; in these cases, an integration between different specialists is mandatory, since only combined modality treatment has proven to achieve acceptable survivals.

All cases of NSCLC invading great vessels, trachea or vertebral bodies require a multidisciplinary approach; selected patients may subsequently benefit from an extended pulmonary resection, in high volume and experienced centres.

Nowadays, remarkable progress in video-assisted thoracic surgery (VATS) technique has made some extended resections possible, in very experienced hands. VATS should not be considered only a well-established approach for the treatment of early-stage NSCLC, since it can become part of the advanced NSCLC treatment. The advantage is not only less pain and more rapid return to normal functioning: the mini-invasive approach allows oncological therapy to be started earlier, compared to open surgery.

From the oncologist's perspective, advances in understanding of tumour molecular biology and targeted drug development brought targeted agents into the advanced NSCLC management: the integration of these therapies with surgical techniques represents a new era in the treatment of the disease.

It is our hope that these articles on relevant and debated topics will stimulate discussions and inform clinical decisions to ultimately improve patient care.

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