

## Chairman's introduction

In 2001, lung cancer remains a major health problem: according to the World Health Organisation, lung cancer accounts for more than 1,002,000 deaths worldwide. Furthermore, this number is still rising, especially amongst women, and lung cancer is now the leading cause of death especially in the age group between 15 and 64 years. During the last decades, all disciplines involved in lung cancer management have advanced notably and this has led to small, but significant, improvements in long-term survival. In the following chapter, the authors share some of the breakthroughs in their own discipline and also outline the close cooperation that is required between all of the specialities.

The molecular biology of lung cancer is one of the most interesting issues for future research. Before the diagnosis of lung cancer, a series of morphologically distinct preneoplastic changes are observed with several molecular genetic abnormalities. Identification and characterisation of these genetic changes may help us to identify molecular markers that may be useful in the early detection of lung cancer, as well as in deciding and designing specific treatments. The knowledge of deletion of the short arm of chromosome 3, the different oncogene activation, the status of *p16*, *p15*, *TP53*, the cyclin genes and *Rb* all represent future areas of research.

The surgeon's point of view in this chapter is not only restricted to some of the aggressive surgical resections, such as the Pancoast where a vertebral body may be safely removed, but also reports on early detection techniques using a low dose spiral computed tomography as a screening procedure. Positron emission tomography (PET) has been increasingly used to stage lung cancers and in the follow-up of patients. Induction chemotherapy is now used even for early stage lung cancers.

Besides surgery, radiation is another locoregional modality. Its limits and appropriate use are now better defined and more precise and aggressive radiation modalities either by modifying the schedule (accelerated hyperfractionation) or the technique (confor-

mal 3D radiotherapy, endoluminal brachytherapy) or by combining a modern radiation programme with surgery and/or chemotherapy are possible. Recent results clearly suggest a real benefit for a combined chemo-radiotherapy approach for locally advanced non-small cell lung cancer and for limited small cell lung cancer, providing the patient is fit enough to tolerate an aggressive schedule. Chemotherapy should not only be considered as a 'palliative modality' for stage IV lung cancer, where it was shown to improve the quality of life, but is now becoming an important component in the management of early and locally advanced lung cancers either with surgery and/or radiation. Standard chemotherapy schedules in the past have included cisplatin or carboplatin. However, some recent data suggested that non-platinum combinations achieve very similar results. Several new drugs are available with increased activity for non-small cell lung cancer including the taxanes, gemcitabine, vinorelbine and irinotecan. Furthermore, even in second-line treatment, some novel drugs have demonstrated activity and improved survival. New therapies are being explored targeting some specific molecular alterations that are present in lung cancer such as antibody against the Her2/neu oncogene product, the EGFR, etc. For small cell lung cancer, an important issue that remains is the question of drug intensification.

Nowadays, lung cancer is not considered to be a single disease entity, but to be composed of several diseases based on histology, tumour extent, but also on the patient's past history.

The modern management of lung cancer requires more than ever a close cooperation between all of the specialities from diagnosis to treatment and follow-up. We should always remember that prevention remains the best policy, but that some notable improvements have also been achieved during recent years in the management of this dreadful disease.

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