Editorial

Morbidity, Mortality and Survival After Surgery for Lung Cancer

Morbilidad, mortalidad y supervivencia en las resecciones pulmonares en el carcinoma broncogénico

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Introduction

Major lung resections, particularly lobectomy, have advanced greatly, and are now regularly performed in thoracic surgery departments. These procedures have undergone particular scrutiny in inter-departmental benchmarking processes, and auditing can provide a good indication of the quality of the unit.1 There are, however, certain interventions that can be controversial in special circumstances, some of which are addressed in the articles reviewed below.2,3

Lung Resection Surgery in Octogenarians

Recent decades have seen a significant increase in the life expectancy of the population. In subjects over the age of 70, the incidence of lung cancer (LC) and consequent mortality is very high, and one of the most hotly debated issues in the surgical approach to these patients is whether age is a limiting factor for surgery. Specifically, the controversy centers on patients aged 80 or older. At this age, early stage LC diagnoses are common, and as such, many patients are candidates for surgery with curative intent. Although some authors working in the field have concluded that octogenarian patients undergoing lung resection have similar morbidity and mortality rates to the rest of the population,4,5 elderly patients are obviously more frail. Some studies report higher mortality figures in patients of advanced age after major lung surgery, although the subject remains a matter for debate. The results of a study by Rodríguez et al. are consistent with others that found no differences in surgical risk associated with age: older and younger groups had similar postoperative cardiorespiratory complications and mortality.4,6 However, significant differences were found in the logistical regression model for predicted postoperative FEV1% (ppoFEV1%), confirming that, as in the general population, resection of the least possible amount of lung parenchyma should be attempted to avoid postoperative complications and loss of quality of life.

Another very important question to bear in mind is the patients’ attitude toward surgery. Very few articles address this issue in depth, but in daily practice, we see that elderly patients do not approach their disease in the same way as younger ones, and they often question the real value of invasive surgery when their life expectancy is already limited. A joint discussion between the surgeon and patient is therefore essential, and must include a clear explanation of complications that can arise and expected postoperative quality of life. Screening of candidates for major lung resection must be particularly meticulous in the case of octogenarian patients.4 When surgery is proposed, video-assisted thoracoscopic resections may be an improvement in terms of postoperative complications and survival in the elderly.7,8 The alternative approach of sublobar resection or video-assisted thoracoscopic segmentectomy must also be considered where possible, as this procedure has shown some excellent results in stage I LC less than 2 cm in diameter.9,10

Pneumonectomy and Possible Alternatives

The incidence of complications and postoperative mortality after pneumonectomy is high,11,12 up to 3 times the risk of lobectomy. Postoperative problems mainly involve bronchopleural fistulas and cardiorespiratory complications.12 After the immediate postoperative stage, the intervention induces physiological changes that can significantly affect the pneumonectomized subject’s quality of life and mortality, as reported in many studies, and in particular by Deslauriers et al.13 It is interesting to compare pneumonectomy with lobectomy in stage IB LC. The skill and expertise of the surgeon may play a part in the surgical approach to these tumors. The future clinical course of a patient may depend on avoiding pneumonectomy, and opting for parenchyma-sparing techniques, such as angioplasty and bronchoplasty.14,15 An additional advance in this type of surgery has been the use of cryopreserved grafts. These procedures may be technically complex, but morbidity and mortality rates have not been higher in the series published to date.16 Indeed, as noted in the aforementioned arti-
icle, the number of pneumonectomies carried out in a surgical unit decreases as surgeons acquire expertise.\(^3\)

Nevertheless, there are occasions, such as infiltration of the hilar structures or interlobar extension, when pneumonectomy is unavoidable and lobectomy must be ruled out as a treatment option. In these cases, prognosis is poorer, due to both the intervention itself and tumor invasion across the fissure, which, in the opinion of some authors, suggests that the malignancy is more aggressive.\(^1,1,8\)

**Pneumonectomy in Elderly Patients**

The second study we would like to discuss is related with the first, in that it addresses an issue also widely debated in the specialized literature: pneumonectomy in elderly patients. Older age, lower FEV1 and whole lung resection were factors for poorer survival and quality of life in the study reported by Rodríguez et al. This topic is of interest because several groups have explicitly advised against pneumonectomy in octogenarians,\(^5\) or have classified this procedure as very high risk.\(^4\) In these cases, then, the use of minimally invasive surgical techniques and alternatives to pneumonectomy also becomes more important, as discussed above.

**Conclusions**

These studies have their limitations, including the lack of DLCO assessments in the early part of the series, the limited number of cases, and scant information on the indication for pneumonectomy. A multicenter approach could be of interest for addressing these questions, and could help to clarify some unresolved issues in LC surgery.

**References**