

Surgery for the Elderly with Non-small Cell Lung Cancer

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Eleven patients over age 80 with non-small cell lung cancer (NSCLC) were entered in the analysis of significance of the surgical treatment. The surgical outcome was satisfactory as far as the patients is selected in stage II patients and a limited operation provided favorable results with maintaining satisfactory QOL.

In conclusion, the surgical treatment is indicative for the elderly over age 80 in consideration of physiological age of individual patients and also a limited operation is the best to minimize the frequency of postoperative complications.

Introduction

As life expectancy is increasing, the chance of surgical treatment for older patients with lung cancer has been raised. The major items of concern involve the extension of surgical treatment to older patients with lung cancer. Surgery is an effective means to treat patients with non-small cell lung cancers (NSCLC). The surgical treatment of choice is required if general condition is tolerable. It is inevitable to precisely assess physiological reduction of pulmonary function for their ages as well as associated lesions. Chemo- and radiotherapy is a second choice for NSCLC.

In this study, the surgical outcome for the aged is reviewed on the basis of a result of surgical treatment. The most properly therapeutic option for NSCLC should be sought in accordance with the progression and histological types of a disease.

Material and Methods

Eleven patients were eligible for this study during the time from September, 1979 to August, 1990. Their ages ranged 80 to 85 years old (mean of 82.2.) Clinical stages were stage I in 7, stage II in one, stage III A in two and III B in one. Preoperative assessment of ECG revealed arrhythmias in one and abnormal ST-T in two. Respiratory function showed 87.8-112.1% of % VC and 59.3-79.5% of % FEV_{1.0}. On renal function test, PSP test (15 min) demonstrated 2.7-51.5 % and a total of 44.3-88.5 % (average 75.4

%) Ccr 23.7-68.1 ml/min (average 46.6 ml/min).

The operative procedures used were partial resection in two, segmentectomy in five and lobectomy in four. Combined resection with thoracic wall was performed in one and the extent of node dissection was R₀ in two, R₁ in eight, R₂ in one, respectively. The histological types were squamous cell carcinoma in three and adenocarcinoma in eight,

The surgical outcome demonstrated alive in seven, ranging three to 61 months (an average of 32.9 m). Four died of cancer in one, cerebral bleeding in one and pneumonia in two ranging from four to 50 months (an average of 17.5 months). The survival curve revealed in Fig 1. indicating satisfactory result in comparison with that in younger. According to the operative procedures, Fig 2 depicted the survival in comparison with a limited operation and lobectomy. The survivals of a limited operation in the selected patients are superior to that of lobectomy as far as the patient may be selected. In this series, lobectomy was indicated for a total of four patients who had a tumor of T₁N₀, T₂N₀, T₂N₁, T₂N₂ in each one. In advanced cases, the enhancement of the operative radicality is placed on the limited node dissection without an extensive resection for the elderly. A limited operation is most favorable for the aged with limited disease.

Discussion

In 1989, the average life expectancy of age 70 was 15.8 and that of age 80 was 8.67¹⁾ with an increasing span of life. With the elapse of time, the indication of operation is moving to patients' ages from 70 to 80 years old.

It is well recognized that surgery should be made as the first choice of the treatment for patients with NSCLC.

As a whole, it is said that adenocarcinoma predominants in the majority of the elderly. In addition, clinical stages of the disease are not characteristic of clinical manifestation of the elderly with NSCLC. Even advanced disease stages are indicated for older patients with lung cancer as things stand. Surgical indications are taken into consideration that first, the tumor mass should be completely removed, second, lymphnode dissection should be perfectly

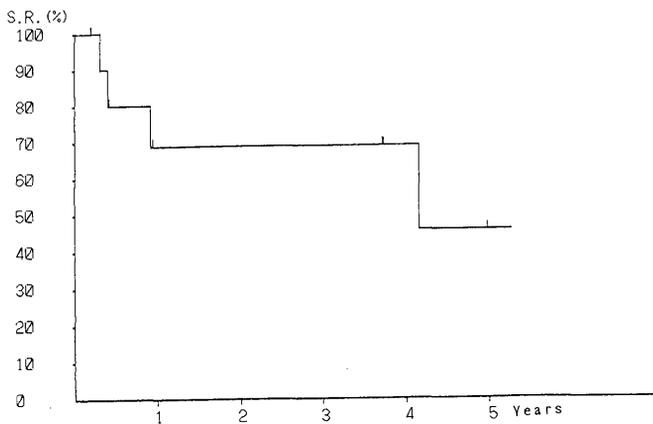


Fig 1 The survival curve after surgery for the elderly over aged 80 with lung cancer

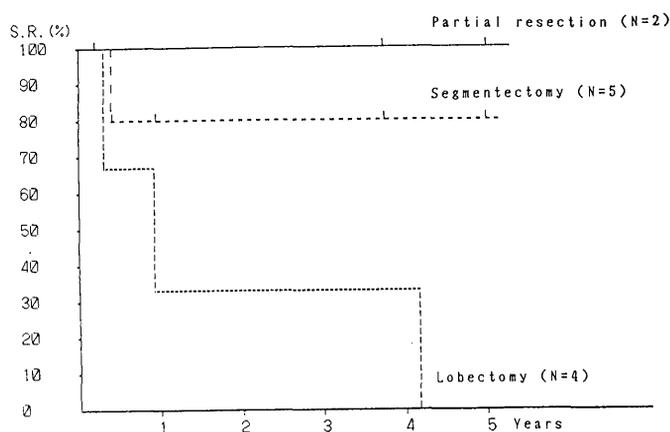


Fig 2 The survival according operative procedures

performed and patients with distant metastasis should be excluded. The tolerance for operation should be evaluated from the stand point of cardiopulmonary, renal and liver functions. Precise assessment requires an exercise test. The limitation of safety tolerance is more than 800 ml/m² of VC and 600 ml/m² of FEV_{1.0} on pulmonary function test. Associated diseases are directly related to the surgical risk.

Recently, it has been important to be assessed in the aspect of postoperative Quality of life (QOL)²⁾. There is no difference in the influential factors on their prognoses between younger and older patients.

It is generally recognized that the frequency of postoperative complications in older patients is higher than that in younger patients.³⁾⁻⁵⁾ In contrast, the 5-year survival of older patients is equivalent to that of younger one, ranging from 22 to 54 %.⁶⁾⁻⁷⁾ A limited resection

contributes to maintenance of postoperative QOL and reduction of the minimizing frequency of postoperative complications. The selection of candidates for surgery is obligatory upon the aged with lung cancers. It should be rerestricted in stage II patients.

The main postoperative complication in older patients is pulmonary complication. Aspiration pneumonia accounted for the most ominous one directly related to operative deaths⁸⁾⁹⁾. Non-surgical treatment by chemotherapy, radiation and in combination used to fail to expect longer survivors so that surgery is mandatory even though the elderly, if feasible.

It is opinion that chemotherapy is ineffective for NSCLC in the aspect of keeping a high QOL⁴⁾. Physiological age is not accord with calendar age. Therefore, individually physiological age should be precisely evaluated for determination of the operability in each patients. As far as the tumor mass may be completely removed, the surgical outcome for NSCLC is favorable even though patients' age had been over 80 years.

In conclusion, the indication of surgery is now widely extended to the patients over age 80 in so far as the tolerance for operation is ensured by preoperative assessment of patients' vital organ function.

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