

Surgery for Non-Small Cell Lung Cancer in the Elderly over 80 Years of Age

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The surgical outcome was evaluated in 14 patients over 80 years of age with non-small cell lung cancer.

The satisfactory results are predicted as far as surgical indication is limited to favorable candidates. Further post-operative cares for age-related diseases are required in a follow-up study.

It is documented in 1989 that the mean survival age of 70 years old is 15.8 years in life and that of 80 years old is 8.67 years in Japan.¹⁾ However, the mean survival age is now tremendously increasing. The major items of concern include therapeutic choice for elderly patients with malignant disease. The surgical indication for lung cancer patients of the aged is shifting from 70 years of age to 80.

In this study, the validity of surgery for patients over 80 years of age is assessed on the basis of a result of clinical experience.

Patients

During the 10 years from January 1983 to December 1992, 14 patients over 80 years of age underwent surgical resection at the First Department of Surgery, Nagasaki University School of Medicine.

The men to women ratio was 11:3 and males were predominant in a ratio of 3.6:1. Histologic types were adenocarcinoma in 10 and squamous cell carcinoma in four, respectively.

Preoperatively associated diseases were hypertension in six (42.9%), old myocardial infarction in one (7.1%) and abnormal ECG findings (atrial fibrillation in one and ST-T in two) in three (21.4%). According to the disease stages as shown in Table 1, eight were of stage I, one was stage II, there were stage III_A, one stage III_B and one stage IV, respectively.

Preoperative pulmonary function test indicated the slight degree of obstructive ventilatory failure which was 71.0 of FEV_{1.0} on the average (59.3 to 79.5) and 103.7 (87.8 to 122.5) of %VC. Table 2 represented the operative procedures, of which two were partial resection (14.2%), five

Table 1. Staging in the aged over 80 years of age

Disease stage	Cases	%
I	8	57.1
II	1	7.1
III _A	3	21.4
III _B	1	7.1
IV	1	7.1

Table 2. Operative procedures

procedures	cases	%	nodal	dissection
partial resection	2	14.2	R ₀	8 (57.1%)
segmentectomy	5	35.7	R ₁	3 (21.4%)
lobectomy	7	50.0	R ₂	1 (7.1%)
			R ₃	1 (7.1%)

segmentectomy (35.7%), seven lobectomy (50.0%) including combined resection with thoracic wall in one. Main procedures were lobectomy and segmentectomy. However, incomplete nodal dissection in older patients was made in selected cases.

The operative result were shown in Table 3. Post-operative complications were encountered in three, alveolar fistula in two and pneumonia in one. There was no ominous complications and drug controllable arrhythmia appeared in two. No operative death was encountered in this series. The surgical outcome was revealed in Table 4. Eight patients were living well. Six died of recurrence and unrelated causes in three.

Table 3. Operative results

	cases	%
Operative death	0	
Complication		
arrhythmia	2	(15.4)
alveolar fistula	2	(15.4)
pneumonia	1	(7.7)

Unrelated causes included senile malasmus, intracranial bleeding and heart failure. Cumulative survival curve was

represented in Fig. 1. It is assumed that survivors over two years after surgery ensured a satisfactory outcome. And also attention should be paid to the fact that postoperative care for age-related diseases is required for predicting a longer survival following surgery.

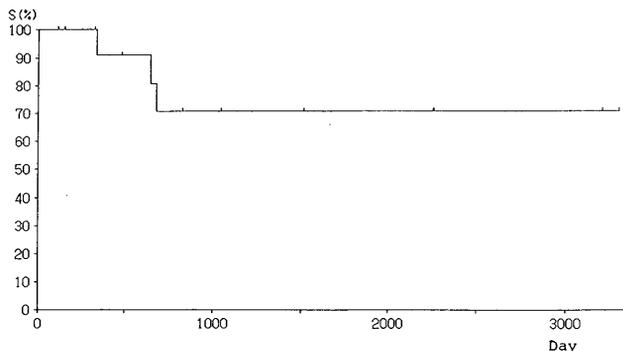


Fig. 1. Cummulative Survival Curves

Discussion

Recently surgery has been increasing in number. In particular, surgery is mandatory for non-small cell lung cancer patients. Needless to say, surgery is an essential treatment of choice. There is no other valuable way of treatment for non-small cell lung cancer patients.

In this study, the validity of surgery for patients over 80 years of age was evaluated. Indications of surgery are limited to stage I and II patients as compared with younger patients. As a result, candidates for surgery should be selected. This may be contributory to better surgical outcome.

It is generally accepted that surgery should be indicated for patients with completely resectable tumors, dissectable nodes, no evidence of distant metastasis and general condition ensuring operation-tolerance.

Functional assessment for surgical indication differs between younger and older patients with lung cancer. In particular, determination of surgical indication for patients over 80 years of age should be prudent and seriously taken into consideration.

As far as surgical indication is carefully limited, surgical outcome is satisfactory. Furthermore, it should be empha-

sized that excellent result can be expected in those who survive over two years after surgery. It is concluded that age factor over 80 years of age should not be excluded from surgical indication.^{2,3)}

Functional indication used to be considered in a range of 800ml/m² of VC and 600ml/m² of FVC.^{4,5)} The incidence of postoperative complications is said to be high in occurrence in older patients.⁶⁾ In contrast, Martini⁷⁾ reported a low mortality rate of 2% in the elderly over 80years of age.

A five year survival rate ranged from 27 to 30%.^{8,9)} As far as stage I patients are indicated, a fair survival rate is predicted even in patients over 80 years of age who are overcoming age-related diseases.

It should be taken into consideration that the immune response of older patients is affected and also postoperative recovery is retarded. For these reasons, the indication of surgery should be limited and selected.

On the other hand, attention to psychological disturbance in older patients should be paid for determination of surgical indication in resuming an enjoyable postoperative life.

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