SYMPOSIUM: Present Status of Endoscopic Treatment of Lung Cancer

S-2. Treatment Results for 41 Cases of Endobronchial Carcinoma with a New Applicator of Intraluminal Irradiation Using $^{192}$Iridium Thin Wires

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Endobronchial brachytherapy for lung cancer has been applied recently to bleeding or occluding tumors in the bronchial lumen using iridium-192 and a remote afterloading system (RALS), and it has been found to be effective. However, the treatment is applicable only to large bronchi, and it is regarded as no more than a palliative therapy.

To overcome these problems, we developed an applicator for endobronchial irradiation in 1987. Characteristics of this applicator are: (1) it can be inserted selectively into an upper bronchus or a peripheral one, (2) radiation source can be put at the central part of bronchus to give an uniform dose distribution over the bronchial wall as wings are provided at the top of the applicator that contains the radiation source and serve as a spacer, (3) the soft silicon material of the applicator does not injure the bronchial mucosa.

Forty one patients who were treated by this therapy between April, 1987 and December, 1993 were studied. Endobronchial irradiation was performed 1-2 times a week and the dose was 10-37 Gy (median 21 Gy). The dose was calculated on the mucosal surface, and it was 5-6 Gy in each treatment. External irradiation was performed in all patients and the total dose was 33-70 Gy (median 50 Gy).

Recurrence was observed in 4 of the 41 cases, but it was outside the area of effective irradiation in 3 cases. No complications of this treatment were observed. This technique is considered to be particularly useful for the treatment of early stage central type lung cancers.