Dear Editor,

Treatment of pneumothorax in patients with idiopathic pulmonary fibrosis (IPF) is often problematic. Especially in elderly patients with IPF, treatment of pneumothorax may often be unsuccessful due to unexpected complications. We would like to share our experience in pneumothorax treatment in a very elderly patient with IPF.

An 84-year-old man was referred to our hospital with an exacerbation of dyspnea. Ten years prior to this presentation, the patient was diagnosed with idiopathic pulmonary fibrosis (IPF) (Figure 1-A). In addition to bilateral diffuse ground-glass opacities, traction bronchiectasis and honeycombing, right pneumothorax was found in the chest radiograph (Figure 1-B). Arterial blood gas on room air revealed PaO$_2$ 38.3 mmHg, PaCO$_2$ 45.3 mmHg and pH 7.47 (O$_2$: 5L/min). A thoracic tube was inserted and deaeration was attempted. Reactive pleural effusion was discharged in large quantities, but air leak continued. Taking poor respiratory state and general condition of the patient into consideration, pleurodesis was not carried out. The pleurodesis by autologous blood was also considered, but the air leak disappeared on the 21st day (Figure 1-C). Two months after the removal of the chest tube, the respiratory condition of the patient does not deteriorate.

Pneumothorax is a common complication in IPF patients, who can present increased morbidity caused by exacerbation of the respiratory manifestations of the disease, which can lead to respiratory failure and death (1). Pneumothorax in patients with IPF, air leaks from complicatedly modified lungs are sustained, and pulmonary re-expansion is difficult to achieve due to contraction tendency. If the lungs are re-expanded, fortunately, pleurodesis is a conceivable effective treatment, but this is also problematic. Many of the drugs used for this treatment are accompanied by fever and pain, but it is presumed that many elderly patients cannot tolerate these complications. By performing pleurodesis in patients with IPF, dyspnea apparently develops due to decreasing respiratory function (2).

Although surgical therapy may be selected as a treat-
ment for pneumothorax of patients with pulmonary fibrosis, there are also problems in surgical treatment. There are patients who do not have re-expansion of the lung due to contraction tendency in fibrosing lung. In addition, some patients lead to fatal acute exacerbation of IPF triggered by pleurodesis or surgical treatment (3-5).

In our patient, some favorable factors existed:

No deterioration of nutritional condition during the treatment period, absence of delirium, no infectious complication, no deterioration in activities of daily living and cognitive function. In fact, albumin level before insertion of the thoracic tube was 2.5 g/dL, and that at the day of removal of chest tube was 2.8 g/dL. Long-term placement of the tube must be a great stress for elderly patients, and long-term bed stay may also cause deterioration in activities of daily living and cognitive function. To our best knowledge, there has been no previous report on a pneumothorax that was successfully treated with conservative medical management in an octogenarian with IPF. Our experience might provide some clinical information on the treatment of pneumothorax in very elderly patients with IPF.

REFERENCES


Figure 1. Chest radiograph taken half a year before this hospitalization showing bilateral diffuse ground-glass opacities (A). Right pneumothorax was found in the chest radiograph which was taken at the time of hospitalization (B). Chest radiograph taken two months after removal of the chest tube showing no recurrence of pneumothorax (C).