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Incidence of pulmonary embolism in a chest hospital in Japan and importance of preoperative perfusion lung imaging in the diagnosis of postoperative pulmonary embolism

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The incidence of pulmonary embolism was retrospectively studied in a University Chest Institute and its affiliated hospital in Sendai, Japan, whose annual numbers of discharged patients from chest medical wards and lung operations as a whole are about 600 and 400, respectively. Before 1975 there was no documented patient with pulmonary embolism. Since then 70 patients had been clinically suspected of having pulmonary embolism and 31 of the 70 were diagnosed as having pulmonary embolism; 15 without and 16 with surgical operations in the immediate past. Fourteen of the 31 patients required combined perfusion and aerosol inhalation lung imaging for diagnosis. Twelve postoperative patients could be diagnosed as pulmonary embolism by comparing postoperative perfusion lung images taken at the time of suspicion with preoperative perfusion counterparts.

Although it is said to be rising, the incidence of pulmonary embolism in a chest hospital still seems to remain low compared with that in western countries. For postoperative patients, comparison with preoperative studies was found very useful in diagnosing postoperative pulmonary embolism. The importance of preoperative perfusion lung imaging cannot be overstressed not only as a preoperative lung function test but as a baseline study to be compared with postoperative perfusion images when pulmonary embolism is clinically suspected in postoperative patients.

Key words: aerosol inhalation lung imaging, perfusion lung imaging, postoperative pulmonary embolism, ventilation-perfusion mismatch