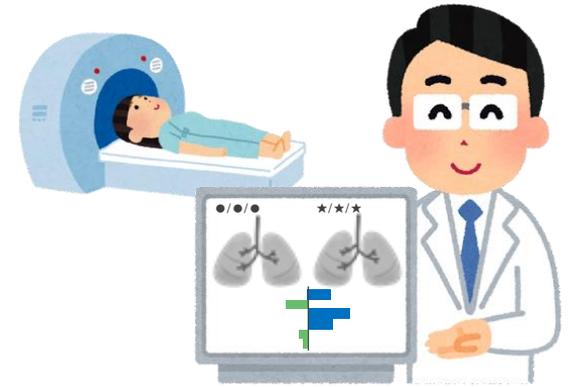


A method for evaluation of tree-structural human organs

Automatically identify the same part in a tree-structural organ at different disease stages for comparison



Overview

For acute respiratory distress syndrome (ARDS) and some chronic fibrosing interstitial lung diseases, it is useful to evaluate bronchiectasis by CT for predicting prognosis. The evaluation before was done by judging of the medical images on display by doctors eye, or by selecting a specific bronchi by doctors and measuring parameters (e.g. internal & external diameters) on a workstation.

However, the former evaluation method by doctors eye has following problems:

- Risk of not being able to make an appropriate evaluation because of the doctor's subjectivity
- Individual differences in evaluation among doctors because of their different experience & ability
- May be not able to recognize small changes because the evaluation is based on 2D image only
- Impossible quantitative assessment

Further, the latter evaluation method makes objective and quantitative evaluation be possible by using a workstation, it is problematic that how to identify the same bronchus anatomically at different disease stages of a same person when evaluating the change of bronchi over time. The conventional technology, which can only automatically generate branching information (cross sectional diameter and wall thickness) and create graphs from CT images, does not allow accurate comparison over time.

This invention provides a method to automatically identify the anatomically same part in a tree structural organ of the same person at different time.

Features

- ❑ Simple and accurate comparison of image at different disease stages
- ❑ Applicable for tree structure organs, such as bronchi and blood vessel

Application

- ❑ Software programs for medical image processing
- ❑ Diagnosis of pulmonary diseases, such as interstitial lung disease, bronchitis, bronchial asthma, COPD, etc.

IP Data

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