

ONLINE APPENDIX

Validation of airway analysis using a phantom

The validity of our method for measurement of longitudinal structure of the airway lumen was examined using an airway phantom (Kyoto Kagaku Co., Ltd., Kyoto, Japan) (Fig. S2). The phantom consisted of eight acryl tubes with varying diameters (Fig. S2A). This phantom was scanned with the same conditions as those for the subjects (Fig. S2B). The measurements using our software were compared with theoretical values. Figure S3 shows the correlation between measured values and theoretical values from the phantoms. The correlation coefficient was high ($r = 0.995$) and the slope of regression line was close to 1.0 (Fig. S3).