

Online Supplement

Normal Routine Spirometry Can Mask COPD/Emphysema in Symptomatic Smokers

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Online Supplement Figures 1-16. Results of Lung Function, Lung Computed Tomography, and Pathology in Cases 1-16

All 16 Cases were studied post 270µg inhaled aerosolized albuterol sulfate using a space chamber from Morris et al.¹⁰ All had normal and preserved routine spirometry including FVC, FEV₁, and FEV₁/FVC % using NHANES III normal predicted data from Hankinson et al.¹² Solid line reflects normal predicted data for expiratory airflow at 50% and 75% FVC from Knudson et al.¹¹ and all 16 Cases had abnormal FEF75% (lps). Normal predicted single breath diffusing capacity data is from Burrows et al.¹³ and static lung volumes data measured by volume plethysmography is from Goldman et al.¹⁴ The pathologic, and HRCT lung emphysema score and distance between alveolar walls (Lm) was determined and based on previous studies,¹⁶⁻¹⁹

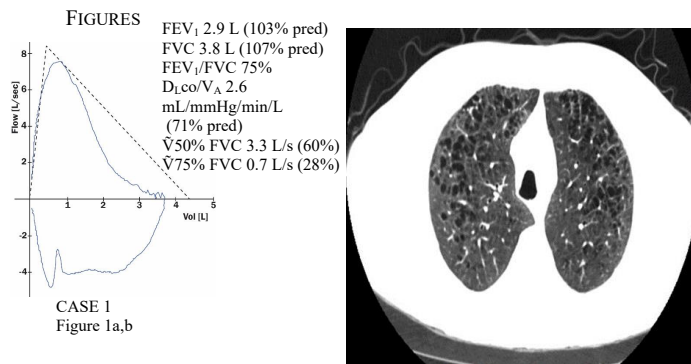
Bronchioles were morphologically within normal limits, and luminal diameters remained intact and comparable to luminal diameters of accompanying pulmonary arteries. Whole lung CT images in upper zones reflect greatest extent of emphysema.

The whole slide images can be viewed using a QR code reader on your mobile device. If the article is opened as a PDF, or PowerPoint slide viewing mode, clicking on the URL beneath each code will open the whole slide scan. Otherwise, pressing the Ctrl key together with clicking on the URL beneath the code will also open the whole slide scan.

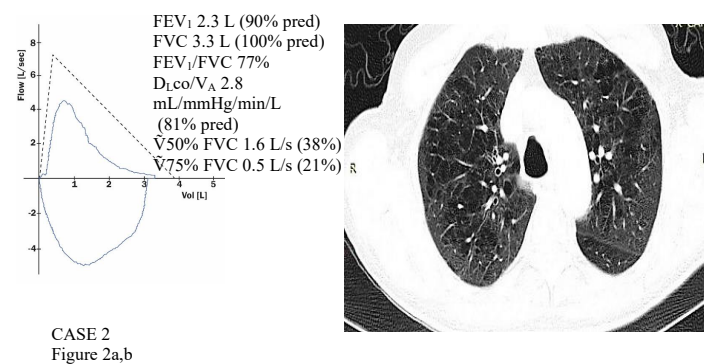
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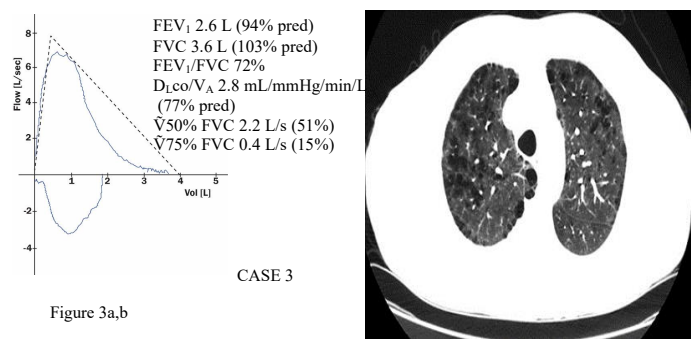
FIGURES



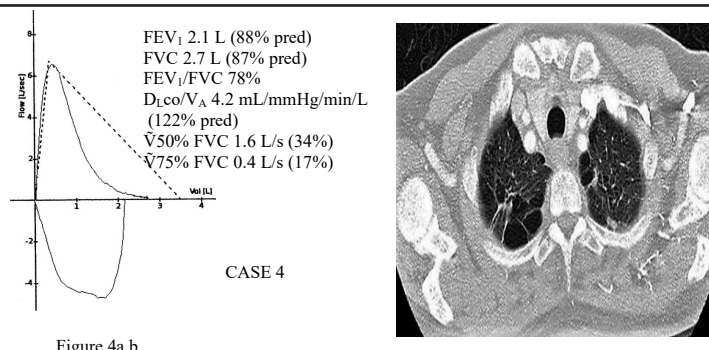
Thurlbeck Mild-Moderate Emphysema Score 30¹⁸⁻²⁰



Moderate Emphysema Score 35

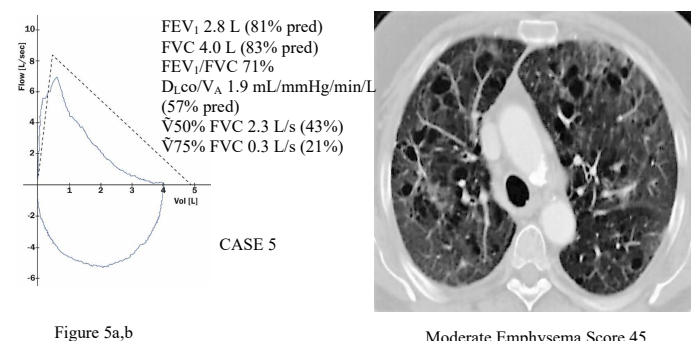


Mild-Moderate Emphysema
Score 30

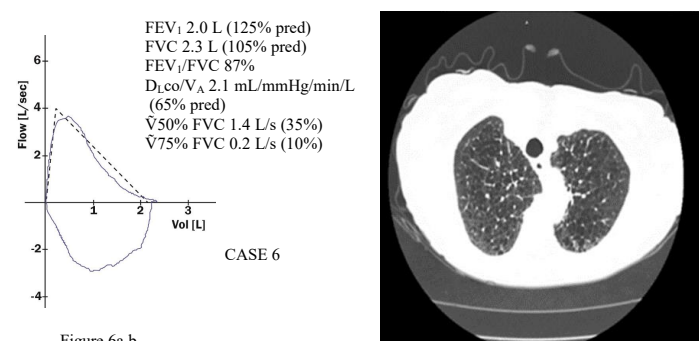


Moderate Emphysema
Score 45

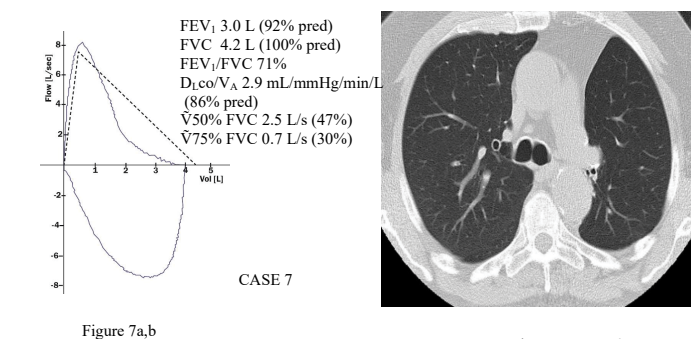
. Inadequate lung tissue prevented emphysema scoring in Case 4.



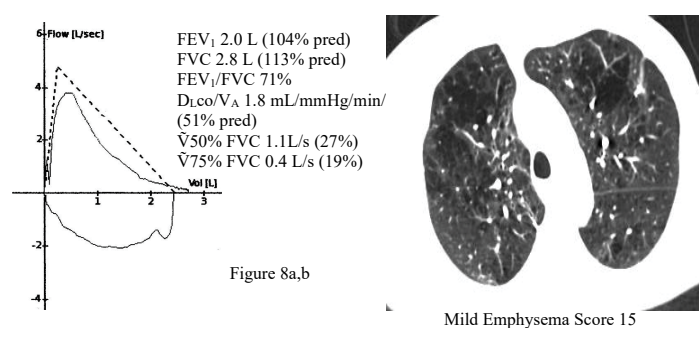
Moderate Emphysema Score 45



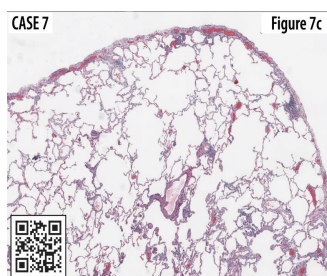
Mild Emphysema Score 15



No Emphysema Score 0

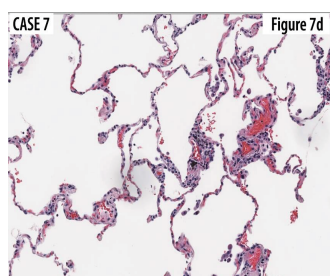


Mild Emphysema Score 15

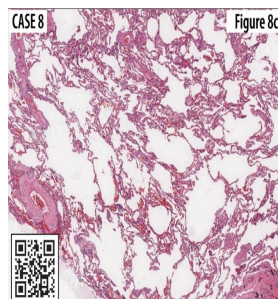


<https://goo.gl/DHv8pa>

6X

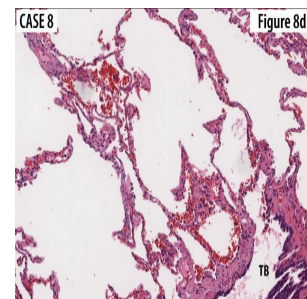


No emphysema, Left upper lobectomy 25X

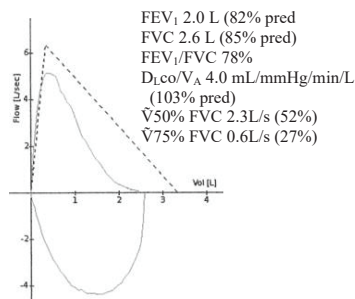


<https://goo.gl/vwrajU>

8X

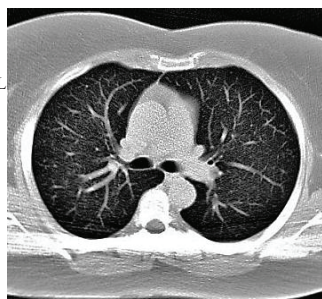


No Emphysema 35X
Right lower lobectomy

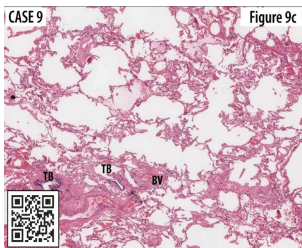


CASE 9

Figure 9a,b

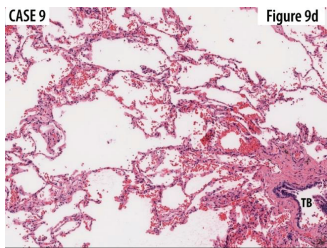


No Emphysema Score 0



<https://goo.gl/rKc4B>

8X



No Emphysema, wedge resection LLLobe 20X

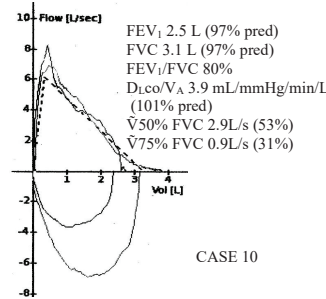
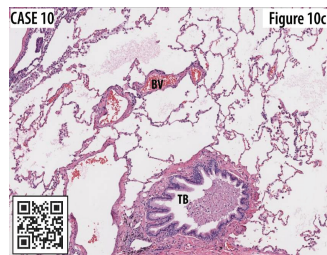


Figure 10a,b

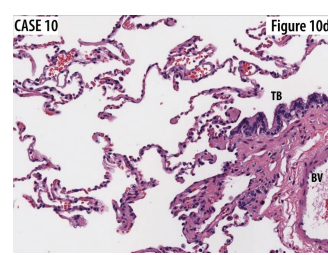


No Emphysema Score 0



<https://goo.gl/SoZhm>

20X



No Emphysema, LLL wedge resection 40X

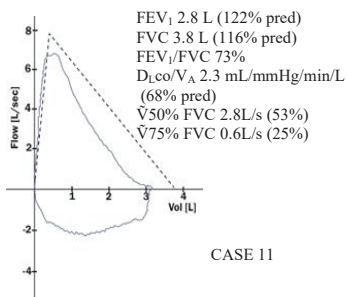


Figure 11a,b



No Emphysema Score 0

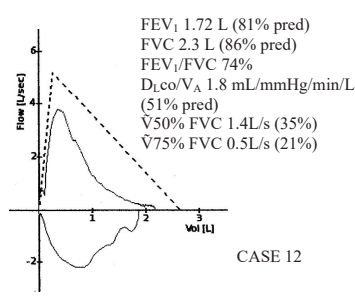
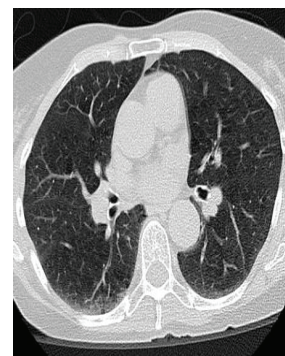
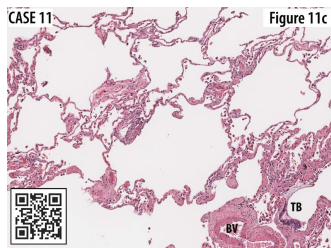


Figure 12a,b

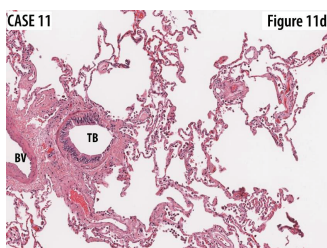


Mild-Moderate Emphysema
Score 30



<https://goo.gl/CkbM17>

8X



No Emphysema, LLLobe wedge resection 20X

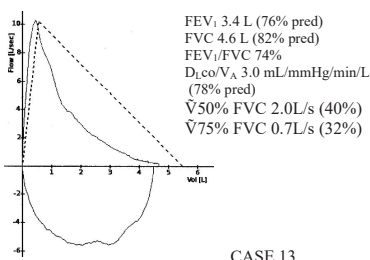


Figure 13a,b



Mild Emphysema Score 15

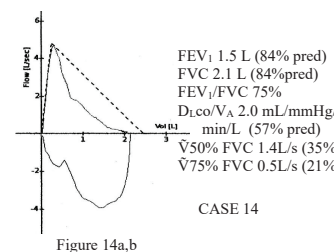
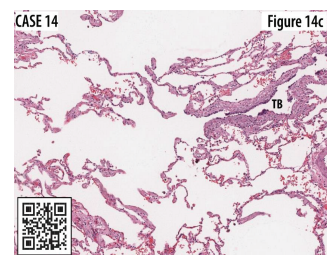


Figure 14a,b

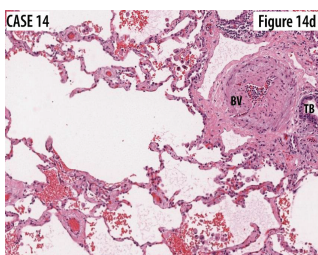


No Emphysema Score 0

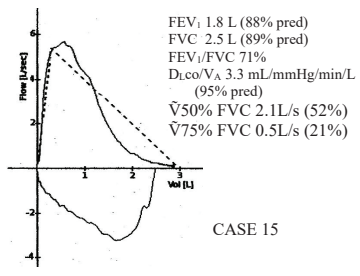


<https://goo.gl/ERLe9>

8X



No Emphysema R Middle Lobectomy 20X

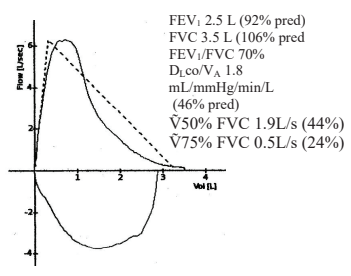


CASE 15



Moderate Emphysema Score 50

Figure 15a,b



CASE 16



Mild Emphysema Score 20

Figure 16a,b