

Online Data Supplement

Paratracheal Paraseptal Emphysema and Expiratory Central Airway Collapse in Smokers

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Supplemental Table 1: Visual Analysis of Lung Parenchyma and Airways on Computed Tomography in Participants with and without ECAC

Variable		Total (n=1320)	Controls (n=880)	ECAC (n=440)
Centrilobular Emphysema				
	None	463 (35.1%)	317 (36.0%)	146 (33.2%)
	Trace	220 (16.7%)	160 (18.2%)	60 (13.6%)
	Mild	259 (19.6%)	160 (18.2%)	99 (22.5%)
	Moderate	151 (11.4%)	94 (10.7%)	57 (13.0%)
	Confluent	134 (10.2%)	83 (9.4%)	51 (11.6%)
	Advanced Destructive	94 (7.1%)	67 (7.6%)	27 (6.1%)
	Substantial*	379 (28.7%)	244 (27.7%)	135 (30.7%)
Paraseptal Emphysema				
	None	829 (62.8%)	571 (64.9%)	258 (58.6%)
	Mild	297 (22.5%)	174 (19.8%)	123 (28.0%)
	Substantial	193 (14.6%)	134 (15.2%)	59 (13.4%)
Paratracheal Paraseptal Emphysema		177 (13.4%)	104 (11.8%)	73 (16.6%)
Bronchial Wall Thickening				
	None	421 (31.9%)	330 (37.5%)	91 (20.7%)
	Borderline	517 (39.2%)	305 (34.7%)	212 (48.2%)
	Definite	382 (28.9%)	245 (27.8%)	137 (31.1%)

*Substantial Centrilobular Emphysema = Presence of any of moderate, confluent or advanced destructive centrilobular emphysema.

Supplemental Table 2: Multivariable Associations with ECAC*

Variable	OR (95% CI)	p value
Age (per 1 year increase)	1.02 (1.01-1.04)	0.002
Male Sex (vs. Female)	0.79 (0.60-1.04)	0.10
African American Race (vs. White)	0.88 (0.65-1.18)	0.38
BMI (per 1 unit increase)	1.04 (1.02-1.05)	<0.001
Current Smoker (vs. Current Non-smoker)	0.93 (0.73-1.18)	0.55
Pack- year Smoking History (for every 1 pack-year increase)	1.00 (0.99-1.00)	0.66
FEV₁, liters (for every 1 liter increase)	0.72 (0.53-0.96)	0.03
Paratracheal PSE (vs. no Paratracheal PSE)	1.53 (1.18-1.98)	0.001

ECAC = Expiratory Central Airway Collapse. BMI = Body-mass-index. FEV₁ = Forced expiratory volume in the first second. PSE = Paraseptal emphysema.

*Conditional logistic regression model with blocking for GOLD (Global Initiative for Obstructive Lung Disease) stage.

Supplemental Table 3: Baseline Characteristics of participants with and without expiratory central airway collapse (ECAC) in participants with expiratory scans at FRC

Variable	Overall (n=1065)	Controls (n=736)	ECAC (n=329)
Age, years	61.9 (9.1)	60.9 (9.0)	64.1 (8.9)
Male Sex (%)	558 (42.3%)	344 (46.7%)	102 (31.0%)
African American Race (%)	233 (17.7%)	165 (22.4%)	66 (20.1%)
Body-mass-index, kg/m²	29.5 (6.7)	28.9 (6.6)	31.1 (6.7)
Pack-years of smoking	46.7 (28.1)	46.4 (28.8)	47.3 (26.7)
Current Smoker (%)	459 (34.8%)	293 (39.8%)	102 (31.0%)
FEV₁, liters	1.92 (0.90)	2.01 (0.93)	1.72 (0.79)
FEV₁, %predicted	68.8 (27.4)	69.8 (27.9)	66.5 (26.1)
FVC, liters	2.99 (1.00)	3.10 (1.03)	2.74 (0.90)
FVC, %predicted	82.3 (19.8)	82.9 (19.9)	80.9 (19.3)
FEV₁/FVC	0.63 (0.17)	0.63 (0.17)	0.62 (0.17)

FRC = Functional residual capacity. FEV₁ = Forced expiratory volume in the first second. FVC = Forced vital capacity.

Supplemental Table 4: Multivariable Associations between Emphysema Subtypes and Airway Disease with Expiratory Central Airway Collapse in participants with expiratory scans at FRC

Variable	Crude OR (95%CI)	p Value	Adjusted OR* (95% CI)	p Value
Substantial Centrilobular emphysema [‡]	1.38 (1.05-1.82)	0.02	1.16 (0.87- 1.54)	0.31
Substantial Paraseptal emphysema	1.00 (0.70-1.43)	0.99	1.21 (0.89-1.66)	0.22
Definite Bronchial Wall Thickening	1.21 (0.92-1.59)	0.18	1.09 (0.85-1.40)	0.51
Paratracheal Paraseptal emphysema	1.55 (1.08-2.21)	0.02	1.51 (1.13-2.03)	0.005

*Adjusted for age, sex, race, BMI, pack-years smoking history, current smoking status, and FEV₁, with conditional blocking by GOLD (Global Initiative for Obstructive Lung Disease) stage.

[‡]Substantial Centrilobular Emphysema = Presence of any of moderate, confluent or advanced destructive centrilobular emphysema.