

Online Supplement

COPD: Iron Deficiency and Clinical Characteristics in Patients With and Without Chronic Respiratory Failure

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Supplemental Table 1

2 × 2 table illustrating the association between Transferrin saturation (TSat) < 20%, Ferritin < cutoff^a, and the combination of them. Numbers = sum of participants.

	TSat < 20%	TSat ≥ 20%	Total
Ferritin < cutoff^a	15	47	62
Ferritin ≥ cutoff^a	5	76	81
Total	20	123	143

^aFerritin cutoff, in presence of inflammation (controls with CRP ≥ 5 mg/L and participants with COPD): 100 µg/L. Ferritin cutoff, no inflammation (controls with CRP < 5 mg/L): 30 µg/L.

Supplemental Table 2

Prevalence of iron deficiency, N (%), according to various diagnostic criteria (Ferritin < cutoff^a, TSat < 20%, and combination of Ferritin < cutoff and TSat < 20%), by relevant covariates.

Characteristics	Ferritin < cutoff ^a	TSat < 20%	Ferritin < cutoff ^a & TSat < 20%
All	62 (100)	20 (100)	15 (100)
Sex			
Female	32 (52)	12 (60)	10 (67)
Male	30 (48)	8 (40)	5 (33)
Age (years)			
< 60	13 (21)	1 (5)	1 (7)
60–69	25 (40)	9 (45)	8 (53)
≥ 70	24 (39)	10 (50)	6 (40)
Hemoglobin level			
Anemia (WHO) ^b	6 (10)	3 (15)	3 (20)
Within ref. range ^c	49 (79)	17 (85)	12 (80)
Above ref. range ^c	7 (11)	0 (0)	0 (0)
CRP			
≥ 5 mg/L	17 (27)	9 (45)	5 (33)
< 5 mg/L	45 (73)	11 (55)	10 (67)
BMI-tertiles (kg/m²)			
1 st (14.3–22.8)	26 (42)	4 (20)	4 (27)
2 nd (22.9–27.7)	14 (23)	6 (30)	4 (27)
3 rd (27.8–39.9)	22 (35)	10 (50)	7 (47)
Severity of airflow obstruction			
No COPD	5 (8)	3 (15)	1 (7)
COPD + FEV ₁ ≥ 50%	25 (40)	7 (35)	6 (40)
COPD + FEV ₁ < 50%	32 (52)	10 (50)	8 (53)
Currently smoking			
Yes	21 (34)	4 (20)	4 (27)
No	41 (66)	16 (80)	11 (73)
Cardiovascular disease			
Yes	12 (19)	2 (10)	2 (13)
No	50 (81)	18 (90)	13 (87)

^a Ferritin cutoff, in presence of inflammation (controls with CRP ≥ 5 mg/L and participants with COPD): 100 µg/L. Ferritin cutoff, no inflammation (controls with CRP < 5 mg/L): 30 µg/L

^b WHO defined anemia: Females: Hemoglobin < 12 g/dL. Males: Hemoglobin < 13 g/dL

^c Reference range of hemoglobin: Females: 11.7–15.3 g/dL, Males: 13.4–17.0 g/dL

Supplemental Table 3

Characteristics of the participants according to hemoglobin level. Mean and standard deviation (SD) are displayed for normally distributed variables. Median and 25th–75th percentiles are displayed for non-normally distributed variables.

Characteristics N (%)	Low (anemia^a) 11 (100)	Normal (with
Demographics		
Sex: Female, N (%)	5 (45)	
Age (years), mean (SD)	70.8 (11.5)	
Groups of participants		
COPD with chronic respiratory failure, N (%)	3 (27)	
COPD without chronic respiratory failure, N (%)	4 (36)	
Controls, N (%)	4 (36)	
Biochemical parameters		
Hemoglobin, B (g/dL), median (25th–75th)	11.7 (11.3–12.1)	14
Reticulocyte hemoglobin; B (pg), median (25th–75th)	33 (27–38)	
Reticulocyte hemoglobin < 32 pg, N (%)	3 (27)	
Transferrin receptor; P (mg/L), median (25th–75th)	1.5 (0.9–2.8)	
CRP ≥ 5 mg/L, N (%)	3 (27)	
Ferritin; P (μg/L), median (25th–75th)	80 (10–100)	
Ferritin < cutoff^c, N (%)	6 (55)	
TSat; P (%), median (25th–75th)	30 (12–44)	

TSat < 20%, N (%)	3 (27)
Ferritin < cutoff^c & TSat < 20%, N (%)	3 (27)
Iron; P (μmol/L), median (25th–75th)	15 (8–22)
Lung function parameters	
Arterial O₂-tension; (kPa)^d, mean (SD)	8.6 (1.7)
FEV₁ (L), median (25th–75th)	2.0 (1.2–2.2)
Clinical parameters	
Pulse rate, median (25th–75th)	64 (50–80)
mMRC dyspnea scale, grade 3 or 4, N (%)	5 (45)

^a WHO defined anemia: Females: Hemoglobin < 12 g/dL. Males: Hemoglobin < 13 g/dL

^b Reference range: Females: 11.7–15.3 g/dL, Males: 13.4–17.0 g/dL (No participant had hemoglobin level in the range that overlaps between WHO defined anemia and reference range (11.7–11.9 g/dL).)

^c Ferritin cutoff, in presence of inflammation (controls with CRP ≥ 5 mg/L and participants with COPD): 100 μg/L. Ferritin cutoff, no inflammation (controls with CRP < 5 mg/L): 30 μg/L.

^d Participants with COPD only

^e One participant missing data