

Supplementary materials

Table S1. Case scenarios

Case GOLD A-smoker

History of Case

- 38 year-old female patient.
- Current smoker (20 pack years).
- Cough of three-year duration, provoked by exposure to odors and smoke.
- Occasional dyspnea.
- Previous treatments included mucolytics and antibiotics at times when her complaints worsened. Received her last treatment 3 months ago.
- Her complaints were partially, but not completely relieved with these medications.
- Her dyspnea worsened in the last 3 months and she started having difficulty climbing the stairs to her flat on the third floor.
- She was admitted to the hospital because of ongoing complaints.
- No history of occupational and environmental exposure.

In case of questioning by physician

- No history of frequent exacerbation and treatment of exacerbation
- Her father has COPD and smoking history
- No related background history

Case GOLD A-non-smoker

History of Case

- 63-year-old female patient.
- Never smoker.
- Cough for 3 years.
- Occasional dyspnea.

- Previous treatments included mucolytics and antibiotics at times when her complaints worsened. Received her last treatment 3 months ago.
- Her complaints were partially, but not completely relieved with these medications.
- Her dyspnea worsened in the last 3 months and she started having difficulty walking uphill.
- She was admitted to the hospital because of ongoing complaints.
- No history of occupational and environmental exposure.
- No known co-morbidities.

In case of questioning by physician

- No passive smoking history
- Biomass exposure
- No history of frequent exacerbation, hospitalization and treatment of exacerbation
- No related family and/or background history

Case GOLD D-smoker

History of Case

- 57-year-old female patient.
- Current smoker (40 pack years).
- Followed –up with a COPD diagnosis for 7 years. She has been complaining of shortness of breath during the last 12 months and has to walk slower than people of the same age. She has been receiving triple therapy (LABA+LAMA+ICS), but complains of dyspnea from time to time despite treatment
- No history of occupational and environmental exposure

In case of questioning by physician

- History of frequent exacerbations and treatment of exacerbations (3 exacerbations in previous year)

- No hospitalization
- No relevant family and/or background history

Case GOLD B-ex-smoker

History of Case

- 54-year-old male patient
- Former smoker (40 pack years)
- Followed–up with a COPD diagnosis for 7 years. He has been complaining of shortness of breath during the last 12 months and has to walk slower than people of the same age. He has been receiving triple therapy (LABA+LAMA+ICS), but complains of dyspnea from time to time despite treatment
- No history of occupational and environmental exposure

In case of questioning by physician

- No frequent exacerbation, hospitalization and treatment of exacerbation
- No relevant family and/ or background history

Case GOLD B-smoker

History of Case

- 61-year-old male patient
- Followed –up with a COPD diagnosis for 7 years. He has dyspnea complaint and falls behind his peers while walking.
- He is receiving LABA+ICS+LAMA. His complaints continued despite treatment.
- Occupation:
- Retired worker
- Socioeconomic status: Middle

In case of questioning by physician

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- No frequent exacerbation, hospitalization and treatment of exacerbation
 - COPD worsening history within a year
 - Hospitalization by the reason of diabetes mellitus 2 years ago

Background history of diabetes mellitus, hypertension and community acquired pneumonia in previous year.

Case ACOS

History of Case

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- 47-year-old male patient
 - Smoking history of 27 pack-years (Quit 1 year ago).
 - He has dyspnea on exertion and at nights. His symptoms worsen upon exposure to dusts. He had 3 exacerbations during the previous year.
 - He also complains of sneezing, nasal discharge and ocular itching and tearing in spring time.
 - His complaints continued despite LABA/ICS treatment and rescue medication use was needed frequently.
 - No history of occupational and environmental exposure

In case of questioning by physician

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- History of frequent exacerbations (3 exacerbations in previous year)
 - No history of exacerbation treatment (systemic steroid, antibiotic/s)
 - History of worsening in previous year
 - Family history of asthma
 - No background history
 - No hospitalization

Case OHS

History of Case

- 79-year-old female patient.
- She never smoked but has been married to a smoking husband for 55 years.
- She was admitted to the hospital due to an increase in her dyspnea for 15 days.
- She had had complaints for 10 years and been previously followed-up with a diagnosis of COPD.
- She had been using ICS+LABA+LAMA for the last 2 years.
- No history of occupational and environmental exposure

In case of questioning by physician

- No frequent exacerbation history
 - History of exacerbation treatment (systemic steroid and antibiotic/s)
 - Hospitalization (one time in previous year)
 - No family and background history
 - BMI: 41.6
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Table S2. Detailed summary of case scenarios

	Case GOLD A-smoker	Case GOLD A-non- smoker	Case GOLD D-smoker	Case GOLD B-ex-smoker	Case GOLD B-smoker	Case ACOS
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Requesting a new PFT						
Yes	50 (100.0)	50 (100.0)	49 (98.0)	49 (98.0)	49 (98.0)	-
No	0 (0)	0 (0)	1 (2.0)	1 (2.0)	1 (2.0)	-
PFT result						
Faulty PFT	7 (14.0)	7 (14.0)	6 (12.2)	6 (12.2)	6 (12.2)	-
Correct PFT	43 (86.0)	43 (86.0)	43 (87.8)	43 (87.8)	43 (87.8)	-
Diagnosis						
COPD	19 (44.2)	37 (86.0)	39 (90.7)	40 (93.0)	41 (95.3)	
Others			4 (9.3)	3 (7.0)	2 (4.7)	
Asthma	9 (20.9)	2 (4.7)	-	-	-	

COPD, Asthma	5 (11.6)	-	-	-	-
ACOS	3 (7.0)	-	-	-	-
Asthma Bronchial	2 (4.7)	-	-	-	-
Chronic bronchitis, Asthma Bronchial	2 (4.7)	-	-	-	-
Bronchial asthma	1 (2.3)	-	-	-	-
Chronic bronchitis	1 (2.3)	2 (4.7)	-	-	-
Emphysema	-	1 (2.3)	-	-	-
Asthma, Emphysema	-	1 (2.3)	-	-	-
Post infectious Bronchial Hyper reactivity	1 (2.3)	-	-	-	-
Total	24 (55.8)	6 (14.0)	-	-	-

COPD grouping and staging

No	14 (73.7)	27 (73.0)	30 (76.9)	28 (70.0)	30 (73.2)
Yes	5 (26.3)	10 (27.0)	9 (23.1)	12 (30.0)	11 (26.8)

Tools used in making the guideline-concordant diagnosis

Guideline-concordant diagnosis-False criteria	1 (20.0)	3 (30.0)	4 (44.4)	5 (41.7)	7 (63.6)
Guideline-concordant diagnosis-Correct criteria	4 (80.0)	7 (70.0)	5 (55.6)	7 (58.3)	4 (36.4)

Grouping

Group A	2 (50.0)	3 (42.9)	-	1 (14.3)	-
Group B	-	1 (14.3)	2 (40.0)	2 (28.6)	1 (25.0)
Group C	-	-	-	1 (14.3)	2 (50.0)
Group D	-	-	2 (40.0)	2 (28.6)	1 (25.0)
Stage 1	-	1 (14.3)	-	-	-
Stage 2	2 (50.0)	2 (28.6)	-	1 (14.3)	-
Stage 3	-	-	1 (20.0)	-	-

Guideline-concordant treatment

LABA (SABA+SAMA)	1 (50.0)	-	-	-	-
LAMA	-	1 (33.3)	-	-	-
LABA+LAMA	-	-	-	1 (50.0)	-

Methylxanthine	-	-	-	1 (50.0)	
ICS/LABA+LAMA (Methylxanthine)	-	-	-	-	1 (100.0)
ICS/LABA+LAMA (Methylxanthine) (SABA)	-	-	2 (100.0)	-	
Short-acting bronchodilators	1 (50.0)	2 (66.6)	-	-	
Control					
<1 month	-	-	1 (2.0)	-	1 (2.0)
≥1 month	-	1 (2.0)	-	-	-
≤3 months	2 (4.0)	-	-	1 (2.0)	-
Recommendations					
Quitting smoking	2 (4.0)	-	2 (4.0)	-	1 (2.0)
Medication use	1 (2.0)	1 (2.0)	1 (2.0)	1 (2.0)	1 (2.0)
Pulmonary rehabilitation	-	-	1 (2.0)	-	-
Daily physical activity	1 (2.0)	-	-	-	-
ACOS					

Non-concordant treatment	-	-	-	-	-	3 (20.0)
Guideline-concordant treatment	-	-	-	-	-	12 (80.0)
Asthma						
Non-concordant treatment	-	-	-	-	-	3 (10.3)
Guideline-concordant treatment	-	-	-	-	-	26 (89.7)
COPD						
Non-concordant treatment	-	-	-	-	-	2 (40.0)
Guideline-concordant treatment	-	-	-	-	-	3 (60.0)
OSAS-COPD Overlap Syndrome						
Non-concordant treatment	-	-	-	-	-	0 (0.0)

Abbreviations: PFT, pulmonary function tests; COPD, chronic obstructive pulmonary disease; ACOS, Asthma-COPD overlap syndrome; LABA, long-acting β 2-agonist; SABA, short acting β 2-agonist; ICS, inhaled corticosteroids; ACOS, asthma-COPD overlap syndrome