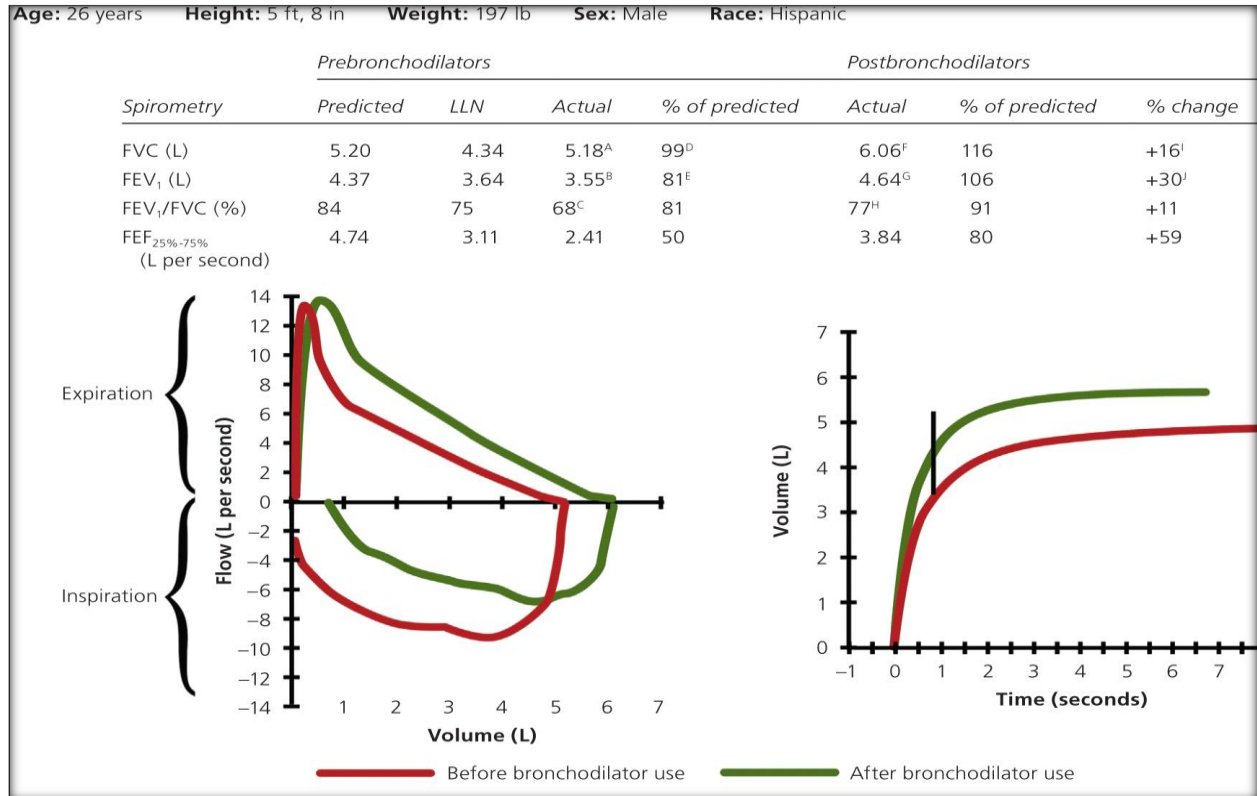


Case 1

Mr. Sami, age 26, has been having attacks since his early childhood. His attacks are characterized by the relatively sudden onset of dyspnea; they are more frequent in the spring and fall, and they are often preceded by symptoms of rhino-conjunctivitis.



The following can be inferred from the question:

Age: 26 years.....means **young**

Attacks are more frequent in spring and fall, preceded by rhino-conjunctivitis means **atopic asthma**.

First step:

Check FEV₁/FVC

= $3.55/5.18 = 68\%$ less than normal (70%).

Second step: Reversibility test:

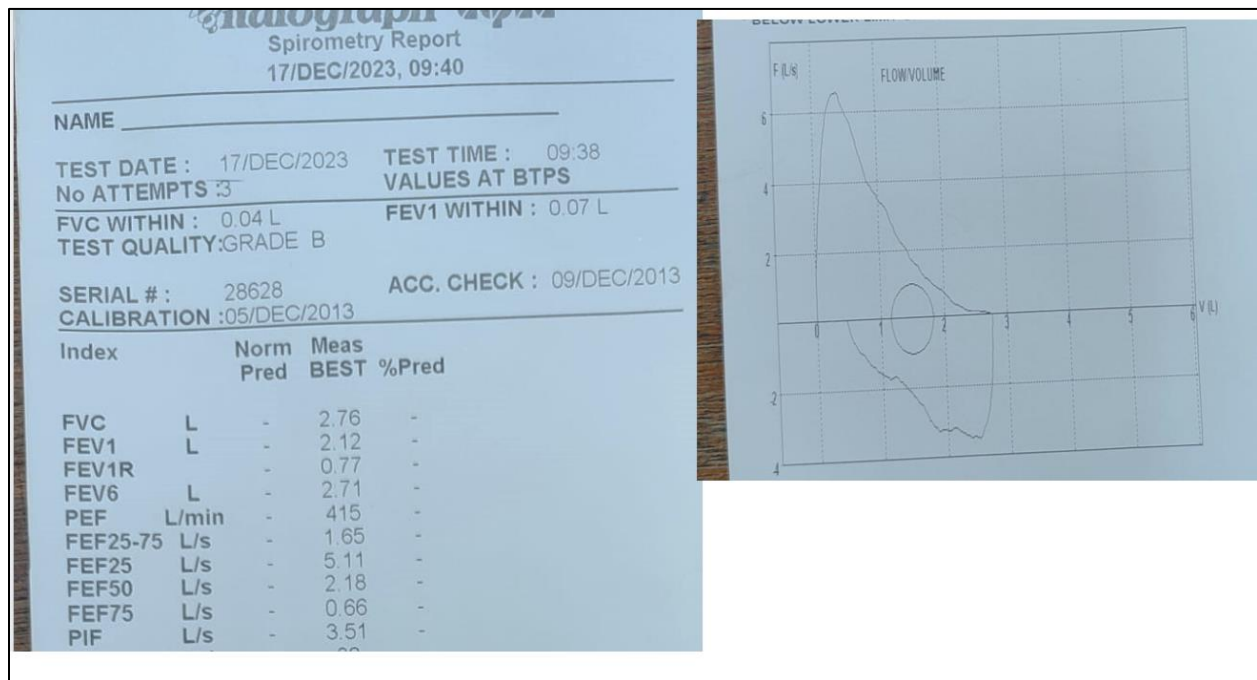
After bronchodilator use:

FEV₁ increased from 3.55 to 4.64**30 %** improvement (>12% improvement in FEV₁).

The answer is: **Reversible airway obstruction disease**.

Case 2:

A 73-year-old man presents with progressive dyspnea on exertion over the past one year. He reports a dry cough but no wheezes, sputum production, fevers or hemoptysis. He is a life-long nonsmoker and worked as a lawyer until retiring 3 years ago. He likes to hunt and fish in his leisure time. His pulmonary function testing is as follows:



First, the **predicted values** were NOT measured..... So, the test should be **repeated**.

Second,

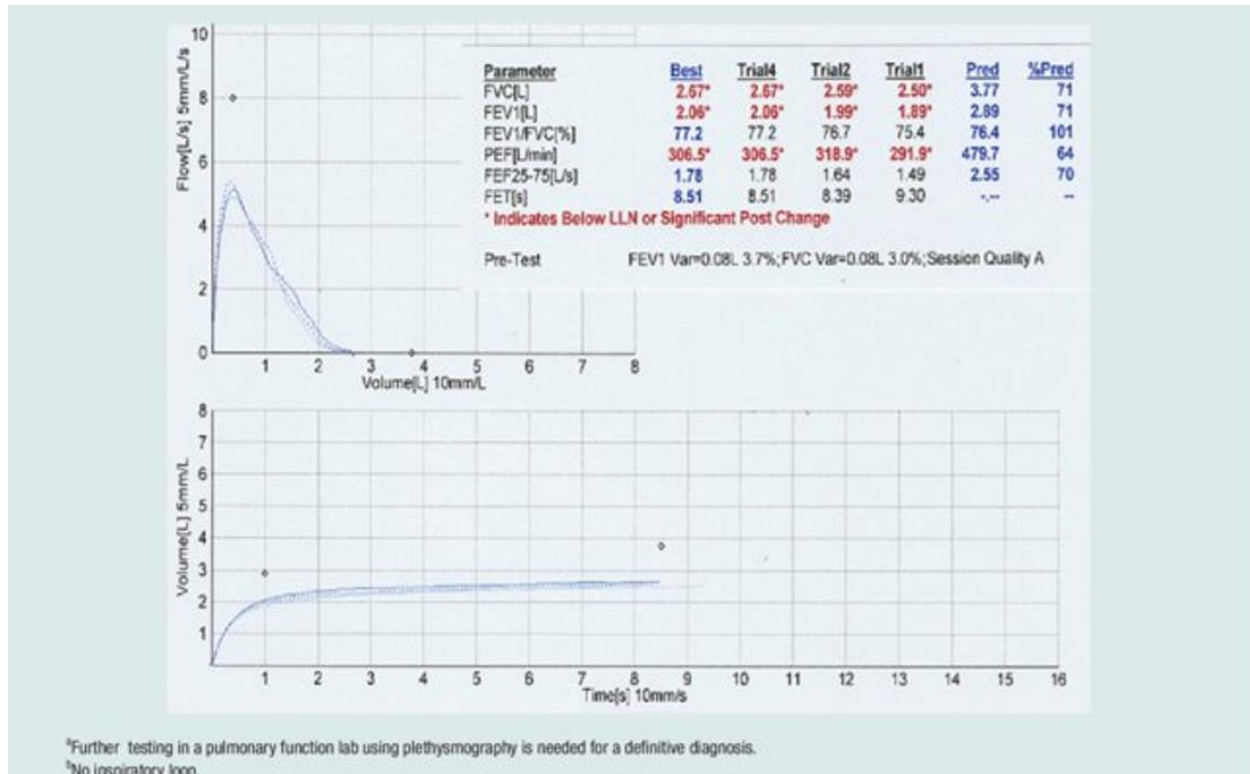
The following can be inferred from the question:

Age: 73-year-old manmeans **old**

a dry cough but no wheezes, sputum production, fevers or hemoptysis.....signs of **obstruction with no infections (no bronchitis)**.

He is a life-long nonsmokermeans **non-COPD**

worked as a lawyer.....means **not-occupational Asthma**



First step:

Check FEV₁/FVC

=2.06/2.67 = 77.2%.....which is **normal**.

Second step:

Check FVC

2.67/3.77= 71% which is **low** (normal: 80-120%).....**Restrictive diseases**.

Third step:

Perform a **complete PFT**. If the **TLC is decreased**, a **restrictive** pattern is confirmed.

Case 3:

R. Z. is a 47-year-old carpenter whose chief complaint is shortness of breath on exertion. His dyspnea, although worse recently, has been present for several years. He smoked 1.5 packs of cigarettes per day for 32 years (48 pack years). He has a cough in the morning. He says that he produces a "small amount of grayish sputum." R. Z.'s father had tuberculosis. A sister had asthma as a child and now as an adult. He denies extraordinary exposure to environmental dusts or fumes.

	Predrug	Pred	%Pred	Postdrug	%Pred	Δ (%)
FVC (L)	4.01	5.15	78	4.49	87	12%
FEV1 (L)	2.05	4.03	51	2.20	55	7%
FEV1%	51	78	-	49	-	-4%
FEF_{25%-75%}	1.2	3.69	33	1.3	35	8%

The following can be inferred from the question

Age: 47-year-old: **typical age of COPD**

Carpenter: could be **occupational asthma??**

His dyspnea present for several years: **chronic**

He smoked 1.5 packs of cigarettes per day for 32 years: **Heavy smoker** (started smoking since he was 15 years old!!!).

Grayish sputum: **Chronic bronchitis.**

First step:

Check FEV₁/FVC

=2.05/4.01 = **51%**.....confirms **obstruction.**

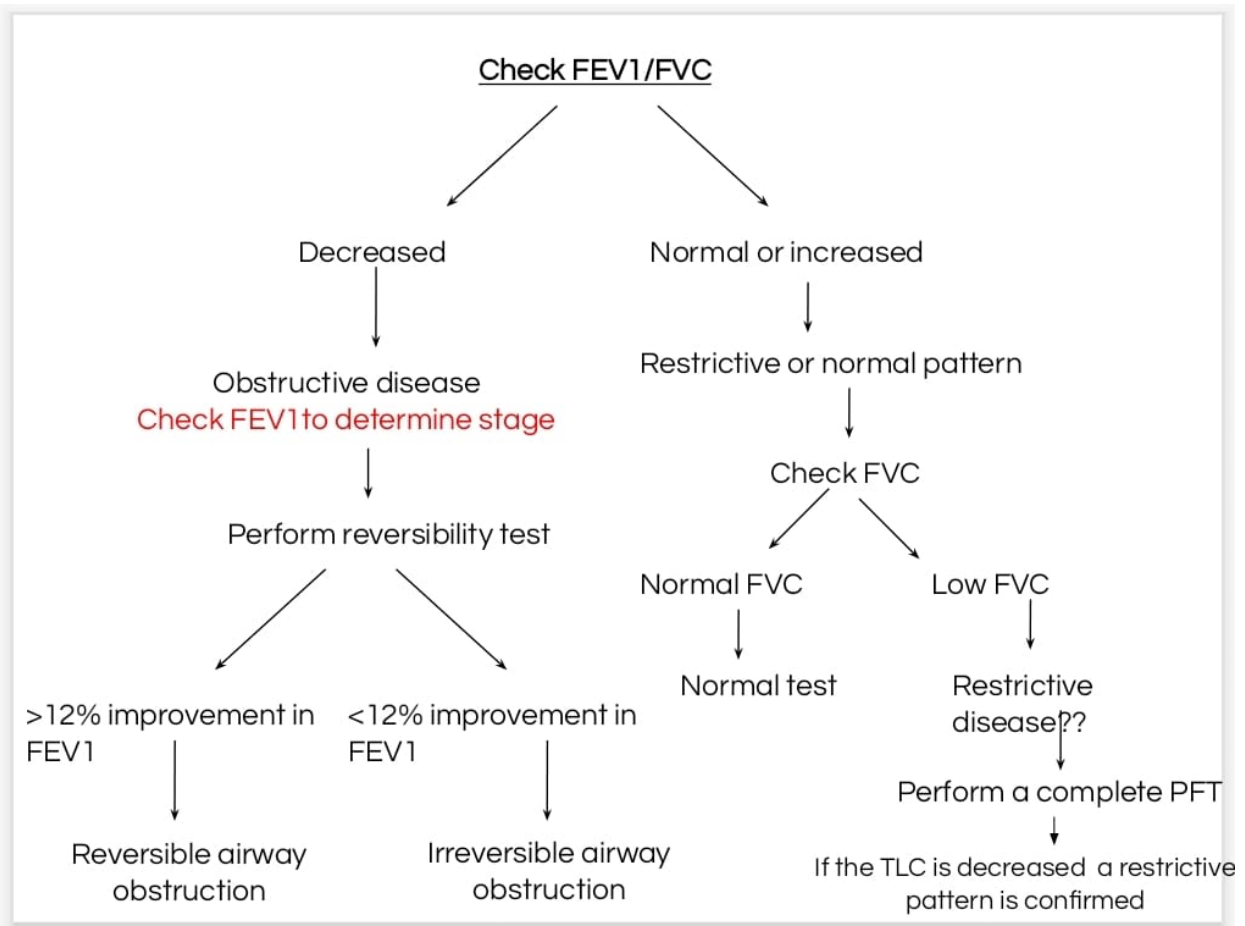
Second step:

Reversibility test:

FEV₁ increased from 2.05 to 2.20**7%** improvement (<12% improvement in FEV₁).

The answer is: **Irreversible airway obstruction disease.**

Keep this chart in mind!



Best of luck,

Suzan