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COPD: Applying New Guidelines to Optimizing Evaluation and Treatment

Narrator:

Welcome to CME on ReachMD! This activity *COPD: Applying New Guidelines to Optimizing Evaluation and Treatment* is provided in partnership with Prova Education and supported by an independent educational grant from Sunovion Pharmaceuticals.

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Your host is Dr. Jennifer Caudle.

Dr. Caudle:

The costs related to COPD care continue to grow and are projected to be \$49 billion annually by 2020, with the majority of costs due to hospital care. Unfortunately, many patients with COPD are still undiagnosed or undermanaged, leading to irreversible lung damages.

This is CME on ReachMD, and I'm your host, Dr. Jennifer Caudle. My guests today are Dr. Hanania and Dr. Sciurba. Dr. Hanania is an Associate Professor of Medicine in Pulmonary and Critical Care and Director of the Airways Clinical Research Center at Baylor College of Medicine in Houston, Texas. Dr. Sciurba is Director of the Emphysema and COPD Research Center in the Division of Pulmonary and Critical Care Medicine at the University of Pittsburgh. On today's program, we'll review 2 different patient cases helping us interpret the most recently released guidelines for COPD diagnosis and management.

Doctors, welcome to the program.

Dr. Hanania:

Well, thank you for having me, Dr. Caudle.

Dr. Sciurba:

Thanks for the opportunity.

Dr. Caudle:

So let's go ahead and start with our first patient. Now, Jim is a 61-year-old male referred to you by his PCP for a recurrent cough for the past 3 years. Jim has a positive history of hypertension, anxiety and hyperlipidemia. He's noticed significant shortness of breath for the past several months, which has forced him to stop exercising every day. He can walk on a level surface, but he struggles with inclines. Jim explains that his cough is sometimes accompanied by sputum, and you also learn that Jim suffered an episode of "bronchitis" about 2 months ago, for which he was given antibiotics by his PCP. He's been a smoker for the past 40 years, and he currently smokes 20 cigarettes per day. He works as truck driver, and he reports frequent exposure to exhaust smoke.

So, Dr. Hanania, based on Jim's presentation, how would you come to the probable diagnosis of COPD?

Dr. Hanania:

Well, Dr. Caudle, as you know, COPD is a very common disease, but unfortunately, about 50% of patients are undiagnosed, and we continue facing this problem. It's not a hard thing to diagnose COPD, but we often, as physicians and clinicians, don't have it on our

radar screen. One has to think about COPD if the patient comes in the office who's 40 and above, who has symptoms of cough, shortness of breath, or even activity limitation, especially if there's exposure to smoke. This is something that, by history, it's easy to get. But then to diagnose COPD, one has to perform a spirometry test, which is very important, and airway obstruction on spirometry showing an FEV1 over FVC ratio less than 70% is diagnostic of COPD in those patients who have symptoms. So, unfortunately, we continue to underuse spirometry in the clinic, but also, we don't think about COPD in patients who come to us for other things, so that's one of the reasons we are underdiagnosing this disease.

Dr. Caudle:

Okay, thank you for that. Now, earlier we mentioned that COPD is largely underdiagnosed. Dr. Sciurba, what are some of the challenges our clinicians face when assessing a patient with COPD?

Dr. Sciurba:

Thank you. The issues really are related both to the care providers as well as to the patients. We're often limited in the time we have to spend to our patients, you don't ask the next probing questions. And the first question is, "How are you doing?" If the response to that in a still smoker is, "I'm doing okay," then the next question needs to be, "What are you doing?" because many of these patients begin to withdraw from activity, and many of these patients don't expose their symptoms because they are still smoking, and you really have to probe. The other aspect with regards to the care providers is we don't have an easy button to get spirometry testing, which is the equivalent of glucose in diagnosing diabetes. If you don't have spirometry testing and you have a dyspneic patient or a symptomatic patient, it could be any number of things going wrong with that patient.

Dr. Caudle:

According to the GOLD strategy, spirometry is essential to the diagnosis and staging of COPD, and this is supposed to guide therapeutic management.

Dr. Hanania, could you tell us more about its role and how the results of spirometry affect COPD staging, and are there other factors that we should be considering?

Dr. Hanania:

So, spirometry, obviously, is one of the key important components in assessment of COPD. It not only allows us, as I mentioned earlier, to diagnose the disease, but we can actually stage the disease, stage the severity of the disease, according to the different cutoffs, and we have four cutoffs based on the current guidelines: mild, moderate, severe or very severe. However, spirometry is not the only thing we use in our clinical assessment of COPD. We look at other things, including symptoms. There are certain questionnaires that we can use like the MRC Dyspnoea Scale, or the CAT questionnaire, and that can actually objectively measure the extent of shortness of breath or symptoms the patient has.

Finally, last but not the least, we have to assess risk of exacerbations, and exacerbations are very common in the course of this disease, yet about half the patients with COPD do not report exacerbations to their primary care doctor or their physician, so that's why we, as clinicians, have to actually ask specific questions and whether the patient had a flare-up of the disease, needed to be in the hospital or emergency room for COPD, needed an oral steroid course or an antibiotic. These are all usually examples of exacerbations of the COPD.

Another thing that is important in our clinical assessment of this disease is to assess for comorbidities, which are quite a few in patients with COPD. We rarely ever see patients—like Jim in this case has hypertension, hyperlipidemia, but actually, on average patients may have four comorbidities, those with COPD, and one has to look at the wholistic approach, not only focus on the lung but also look at other comorbidities, which are very important. So, as you see, the assessment of COPD now is really a global assessment of lung function, shortness of breath or symptoms, risk of exacerbation, and assessment of comorbidities.

Dr. Caudle:

Okay, great. Thank you for that. And to wrap up this discussion about Jim, Dr. Sciurba, how would you manage him?

Dr. Sciurba:

Well, I don't know his spirometry, and that would be an essential step knowing really what bronchodilators, etc., but I can tell you in general, patients who are dyspneic, who are smokers, who appear to either be at risk for COPD or have early COPD will need vaccinations, influenza every year, Pneumovax, and probably Prevnar as well because there's probably an immune component in COPD. We need exercise, rehab, lose weight, and of course prevention and smoking cessation in an ongoing smoker, and that's a whole lecture unto itself. If, in fact, he has mild spirometry, if it's borderline we may just give an as-needed bronchodilator with exertion, but in general, patients with fixed obstruction need maintenance bronchodilators, and we'll talk a little bit more about that in the next case.

Dr. Caudle:

Great. Now, if you're just joining us, this is CME on ReachMD, and I am your host, Dr. Jennifer Caudle. I'm speaking with Doctors Hanania and Sciurba on the topic of COPD management.

Now, during the review of our first patient case, we looked at strategies for diagnosing COPD. Let's now turn to the management of more severe disease with a second patient, whose name is Laura. Laura is a 58-year-old woman who's being evaluated for worsening COPD symptoms over the last 6 months. She has a cough almost every day and reports that she has to use her rescue inhaler 4 times a day. She's had 3 exacerbation episodes over the past 6 months when she needed to be treated with a short course of steroids and antibiotics. She is currently on a tiotropium inhaler, which she takes once a day. She stopped smoking about 5 years ago but previously smoked 40 cigarettes a day for 25 years. Spirometry was done 2 months ago and revealed a postbronchodilator FEV1 of 62% predicted with an FEV1/FVC ratio of 65%. Her CBC reveals a hemoglobin of 11, white blood cell count of 8, platelets at 210, neutrophil 67%, lymphs at 10%, and eosinophils at 4%.

So, Dr. Hanania, Laura's COPD is clearly not stable. What are the challenges clinicians meet when managing COPD cases like hers?

Dr. Hanania:

Well, Dr. Caudle, for many years we thought about the disease as a disease that has one face. We looked at the blue bloater or pink puffer. We called these the phenotypes of this disease. But now, in 2018, we are seeing that this disease has multiple phases, not only the blue bloater or pink puffer. We call these phenotypes, and it's important for clinicians to address these phenotypes, because the approach for patients with COPD may differ according to the underlying phenotype of the disease. Laura, for example, in this case has an exacerbator phenotype. She has had exacerbations in the past. These patients are at high risk of frequent exacerbations following the first exacerbation. The management also may be different. There are patients with COPD who have chronic cough and sputum. Those are the patients we call chronic bronchitis phenotype. There are some patients with COPD who have barely any cough but are more short of breath, and those are patients with emphysema type of phenotype. So, nowadays, we have lots of tools, but many more to come to allow us, as clinicians, to identify these subtypes of COPD that we call phenotypes.

Obviously, the goals of management of this disease rest on improving symptoms, improving exercise tolerance, decreasing exacerbation and improving quality of life, and also, of course, we want to decrease admission to hospital, and above all we want to reduce mortality since this is a major killer. It's the third leading cause of death in the United States.

Dr. Caudle:

Right, very good points there, all very good points and things that we really need to keep in mind. Let's turn now to management decisions. We know that optimal COPD management is multifaceted, but, Dr. Sciurba, can you tell us more about what this actually entails?

Dr. Sciurba:

So, we discussed the components that are across all classes—smoking cessation, immunization, exercise, rehab—but then based on the sub phenotypes that Nic discussed, we may then strategize adding additional medications. The fundamental medication in a patient with COPD who has fixed obstruction are long-acting maintenance bronchodilators, not just short-acting bronchodilators. And in general, we would often start with an anticholinergic, but because most patients with COPD really ever get complete elimination of their symptoms, often symptomatic patients will start with a dual, long-acting maintenance bronchodilator. That's fundamental. In contrast to asthma where you start with the inhaled corticosteroids and follow with the bronchodilator, COPD you start with the long-acting bronchodilator, and then we consider the use of inhaled corticosteroids. Behavioral modification to get compliance, to get patients to exercise, is an important critical component. And, of course, you want to make sure you're treating any comorbidities because they will interface and synergize with any of the pulmonary issues to create symptoms in our patients.

Dr. Caudle:

Great. And now, Dr. Hanania, what other approaches should clinicians think about for a patient such as Laura?

Dr. Hanania:

Well, there are several approaches. Obviously, the medications are very important in managing COPD, especially patients with severe COPD, such as what Laura has, but shared decision-making is very important. It's a 2-way highway when it comes to management of COPD. It's very important to assess the patient's needs and also the caregiver if it's a patient who is old and needs a caregiver with him or her. We have to look at choice of delivery systems that we pick for the medications that we prescribe. There are several platforms that can be prescribed: a metered-dose inhaler, dry powder inhaler, soft mist inhaler or nebulization. In some of the elderly patients who cannot use inhalers, nebulization may be the best platform. So these are important things to keep in mind in managing this disease. It's not enough just to pick the right medication, but also make sure the patient is comfortable with what we pick.

The other important issue that I would like to mention is the issue of compliance with management or with treatment. Compliance is a major problem in this disease. Many patients don't want to get or take their inhalers or maintenance medication every day, so it's important for us to educate them why they need it and what is it for. Of course, there are other things that may play a role in this compliance, such as the cost of medication and obviously the coverage, the medication cost, coverage and insurance, but it's very important to keep that in mind. The other thing, obviously, we need to encourage them to continuously exercise and walk. Walking is very important. Finally, and last but not the least, it's important to keep in mind that prevention strategies, smoking cessation and vaccinations are very, very important in all patients with COPD no matter what severity he or she has. Oxygen therapy is very important in a subgroup of patients who have hypoxemia or low oxygen, and so assessing oxygen both at rest and exercise is important. With patients like Laura who have severe disease, she may require oxygen on a long-term basis. There are certain criteria whether she would qualify or not, but we will not know it until we test her. In some specific patients with COPD like Alpha-1 antitrypsin emphysema patients, they may require augmentation therapy, which is a monthly infusion of medication to prevent further damage to the lung and more emphysema. So that's why I think one has to tailor the medication towards what the patient's phenotype is but also how severe is the disease and also the patient's ability to use medications when it comes to form of therapy.

Dr. Caudle:

So, Dr. Hanania, in conclusion, what type of management would you recommend for Laura?

Dr. Hanania:

Well, obviously, Laura fits the exacerbator phenotype. She's had several exacerbations. Currently, she is only on one long-acting bronchodilator, tiotropium, but she's using a rescue medication quite frequently, and so obviously, this is not adequate for her. She's still symptomatic. And if you look at the strategies of management by the GOLD strategy for management of COPD, the advice is to add another medication, usually another long-acting bronchodilator. Since she is already on a long-acting anticholinergic, adding a long-acting beta agonist would be appropriate in her case. Also, because of her recurrent exacerbations and also high eosinophil count, as we heard, she may actually require an inhaled corticosteroid as an add-on as a triple therapy with a LABA and a LAMA. But obviously, the role of eosinophils in determining the need for inhaled corticosteroids in COPD, as Frank mentioned, is still not written in stone. It's still controversial. In general, one believes that patients with COPD will have high baseline eosinophil count, may actually respond better to inhaled steroid than those who do not, so that's one thing that one has to keep in mind, and obviously more studies are needed to confirm this, but this is what so far the studies have shown.

So therefore, these are very important pharmacologically, but in her case, also, I would reassess her. It's not a one-shot disease. We give the treatment. We bring them back. We bring Laura back and see how she's doing. If she's still symptomatic, she's still requiring rescue medication, I would consider referring her to a pulmonary rehab program, which is very important to improve her symptoms and quality of life and her exercise tolerance as well. In addition, I would consider measuring her oxygen levels at rest and also at exercise and obviously reassess her, usually every 6 to 8 weeks because of her severity. Later on, once she's more stable, we may see her every 3 months in the clinic.

So, as you see here, it's a continuous process of assessing, managing and reassessing when it comes to COPD.

Dr. Caudle:

Well, with that, I would like to thank my guests, Dr. Hanania and Dr. Scirba, for speaking with me and our ReachMD audience. Doctors, it was wonderful having you on the program.

Dr. Hanania:

Thank you.

Dr. Scirba:

Pleasure, thank you.

Narrator:

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