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https://reachmd.com/programs/cme/navigating-copd-from-symptom-recognition-to-emerging-treatment-strategies/26928/

Released: 10/04/2024
Valid until: 10/04/2025
Time needed to complete: 15 minutes

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Navigating COPD: From Symptom Recognition to Emerging Treatment Strategies

Announcer:
Welcome to *Deep Breaths: Updates from CHEST* on ReachMD. This CME activity, titled "Navigating COPD: From Symptom Recognition to Emerging Treatment Strategies," is brought to you by The American College of Chest Physicians and supported by Regeneron Pharmaceuticals Inc. Since the time of this recording, the FDA has recently approved dupilumab as an add-on maintenance treatment for adult patients with inadequately controlled chronic obstructive pulmonary disease (COPD) with type 2 inflammation.

Before starting this activity, please be sure to review the faculty and commercial support disclosure statements as well as the learning objectives. And now, here's Dr. Farrukh Abbas.

Dr. Abbas:
This is CME on ReachMD, and I'm Dr. Farrukh Abbas. I'm Assistant Professor of Internal Medicine and the Director of the Severe Asthma Clinic at the Virginia Commonwealth University in Richmond. Joining me today to discuss the symptoms and presentation of COPD is Dr. Megan Conroy, who is an Assistant Professor of Medicine and an Associate Program Director of the Pulmonary and Critical Care Fellowship at The Ohio State University in Columbus. Dr. Conroy, thanks for being with me today, and I look forward to our conversation.

Dr. Conroy:
Great to talk with you, Dr. Abbas.

Dr. Abbas:
Let's just dive right in, Dr. Conroy. Like me, you are someone who practice in a tertiary pulmonology clinic that very often serve as a gateway to advanced treatment options for COPD. For our listeners who might be the providers who refer patients to our clinic, I'm curious, as patients are coming into your clinic for evaluation of COPD, what kind of workup and what kind of background you're looking to first make sure that has been covered before moving on to what we might think of as more advanced treatments for COPD?

Dr. Conroy:
Yeah, thanks, Dr. Abbas, for the question, because I think it's an important one. You know, when we talk about management of advanced COPD, certainly we have some procedural and emerging therapies that might be accessible only in larger tertiary centers, and we'll talk about some of those today. But really the mainstay of our care in advanced COPD must necessarily start with the comprehensive management that is often started by those physicians and providers who are referring patients to our tertiary centers.

Reviewing the inhaled therapies that have been prescribed for patients and the history of how and why those might have been escalated over time is another aspect of the history that I'll take. Importantly, I will spend a fair amount of time actually assessing a patient's ability to correctly use their inhaler device. It's really astounding how many patients don't take their inhalers correctly. I joke with my patients, I give you a pill, you swallow it, and, by and large, I know that you're getting the medication. But that's just simply not the same for inhalers, and it's important to normalize that these are difficult medications to take in the action of taking them. And really, truly taking the time to ask patients to show me and explain to me how they use their inhalers, giving me the opportunity to correct the points that are necessary for improvement. And then taking the time to ask them to teach back to me again what we just covered, really time and

again, has resulted in meaningful differences for countless numbers of my patients. This is a big time investment, but there are so many patients who are referred to me that I don't actually need to change their medical management, but really just focus on improving the delivery of their medications into their lungs.

A good symptom assessment and exacerbation history is a key part of my initial assessment, and that leads naturally into rounding out other foundational aspects of COPD care. You know, with discussion of benefits for both exercise capacity and improvement in dyspnea, for pulmonary rehab participation.

Many referring physicians and providers are already enacting these approaches and key points of care. And my first view is an assessment to really make sure what ground was already covered, reinforce education already provided by these physicians, and to find the ways that I can supplement this care to advance further symptom control, improve medication access, and patient adherence, and to ensure appropriate patient partnership and advancing any other approaches to care that may help patients to reach their goals.

So that's really what I look for when patients are referred to me. And I'd like to turn it back to you now, Dr. Abbas. As I discussed some of that foundational comprehensive medical care, one source to ensure that we are providing the most evidenced-bsed care in that effort that I turn to is the GOLD Initiative for Obstructive Lung Disease, or the GOLD report. Now I wonder, Dr. Abbas, can you tell us more about the recent updates to the GOLD report or the GOLD guidelines?

Dr. Abbas:
Yeah. For comprehensive patient care, it is crucial to keep us up to date on the most recent changes.

GOLD 2024 document reported several changes related to spirometry, COPD screening, vaccination, choice of inhaler device, and smoking cessation. We also know that the role of type 2 inflammation in COPD is evolving, and new therapies, particularly biologics, are being investigated to target type 2 inflammation in patients with COPD who are at elevated risk of exacerbations.

Some of those changes include information about PRISm, the preserved ratio impaired spirometry. It is noteworthy to mention that although PRISm is not a stable phenotype, it can transition to both normal and obstructive spirometry over time. But PRISm is associated with increased risk of cardiovascular disease, all-cause and cardiovascular mortality, hospitalization, and an increased risk of developing airflow obstruction in future. The GOLD guidelines definitely commented on that.

The next point I want to highlight is the recommendation about screening for COPD in targeted population, such as those undergoing annual low-dose CT chest for lung cancer screening, particularly when airways and parenchymal abnormalities are found on the CT scan and those in home pathologically identified structural abnormalities are found on chest imaging, which are done for clinical respiratory complaints. It is important to know that the United States Preventive Service Task Force, USPSTF, recommends against screening for COPD in asymptomatic patients, but this recommendation is not applicable to the population at increased risk of COPD. And GOLD guidelines definitely highlighted that.

The other section where changes were reported was the initial assessment of COPD. So there is guidance on checking blood eosinophil count, and that has been updated that blood eosinophil count, if elevated, could predict the magnitude of effect of inhaled corticosteroids. Elevated blood eosinophils of 300 or higher could indicate presence of type 2 inflammation. And studies have shown either mixed results with regards to blood eosinophil to predict future exacerbation with either no relationship or a positive relationship.

2024 GOLD document also updated vaccination recommendation, as you mentioned in your comprehensive evaluation, which is in line with the CDC, so it includes the recommendation for the RSV vaccine for individuals over age 60 years and/or those with chronic heart and lung disease.

Furthermore, section on managing inhaled therapy now includes information on a patient's ability to use a delivery system correctly and the choice of inhaler device.

Dr. Conroy:
Yeah, thanks for breaking down those guidelines for us, and certainly year over year, helping us to get a little more precise. And kind of in that line, and as a follow-up, could you expand a little bit on how you choose a bronchodilator therapy based upon that GOLD classification?

Dr. Abbas:
Of course. As listeners might be aware in 2023 GOLD guidelines merged Group C and D into a single group now termed E. So now we only have three groups, Group A, B, and E, which are based on dyspnea score and the frequency of previous year exacerbations.

In Group A, a short-acting or long-acting bronchodilator should be offered, and that's what I do in my clinical practice. I prefer a long-acting bronchodilator if that is affordable by the patient. And that's what is recommended in GOLD guidelines.

In Group B, treatment should be initiated with a LABA plus LAMA combination. And it's important to mention here that Group B belongs to the patient with zero or one moderate exacerbation not leading to hospitalization, and patients with high dyspnea score, which is assessed by CAT score of 10 or higher, or mMRC 2 or higher.

So the Group E includes patient with a history of two or more moderate exacerbation or one or more exacerbation leading to hospitalization. So patients in Group E should be treated with LABA plus LAMA combination. And triple therapy, which is LABA plus LAMA plus inhaled corticosteroids, should be considered in Group E if absolute eosinophil count is 300 or higher. And that's pretty much what I do in my clinical practice. It is important to know that LABA plus inhaled corticosteroid use is not encouraged in COPD. If there is an indication for inhaled corticosteroids, I prefer triple therapy as per GOLD guidelines.

Dr. Conroy:
Great. So really titrating the number of inhaled medications, honestly, to the amount of symptoms, those with Group A having one long-acting bronchodilator, Group B with more symptoms having two inhaled medications, and those in Group E really personalizing for the inclusion of triple therapy based upon blood eosinophil count.

Dr. Abbas:
Definitely. Dr. Conroy, so triple therapies are available in combined and separate inhalers. Could you talk me through how do you decide to choose a delivery device? Or use of a single versus separate inhalers? And when do you consider using nebulized triple therapy for patients with COPD?

Dr. Conroy:
Yeah, absolutely. There's, you know, a lot of ways that we can enact triple therapy for patients.

No matter the delivery device that's used though, you want to make sure that your patients are using it correctly. And first, that really means ensuring that you yourself know how to prime, actuate, and administer a dose in each device that you prescribe.

When you're assessing inhaler technique, particularly for patients with COPD, when using dry powder inhalers in forms of things like the HandiHaler, Ellipta, Diskus, and Pressair devices that come with these LAMA and LABAs, patients really need to achieve a certain inspiratory flow for the breath actuation of that device. For the HandiHaler this is quite low, with inspiratory flow rates about 20 liters a minute. And it's slightly higher for Ellipta and Diskus at about 30 liters a minute, and slightly greater for those Pressair devices.

Most patients with COPD can achieve this, but some of the patients with the most advanced COPD may struggle, and so a consideration of inspiratory flow generation may be necessary when you're choosing a device for some patients. Metered dose inhalers, particularly when used with the spacer, do not require significant inspiratory flow.

But just beyond respiratory dynamics, it's also important to be mindful of the impacts of other comorbidities to inhaler use.

And in all, I really find that actually having patients show me the use of their inhalers in the office can allow for a pretty comprehensive assessment to cross these considerations and can help me work through which device will be easiest for them to use correctly and routinely.

Certainly patient access to medication with cost is a necessary consideration. And so there is necessity to work within patients' insurance and affordability that really becomes key to that adherence.

As for the last point, sort of the question on nebulized medications, you know, these may be useful for certain patients, particularly those who really have difficulty using other devices.

For allcomers, though, I find that these nebulizers, the delivery of medications to these nebulizer machines is just bulkier, there's more tubing to care for and replace and generally, is sort of a later line of consideration for me, looking to first optimize the use of these inhaler delivery devices first.

Dr. Abbas:
So those are real practical points. And thank you for sharing those.

And for those of you just joining us, this is CME on ReachMD. I'm Dr. Farrukh Abbas, and today I'm speaking. Dr. Megan Conroy about COPD.

So coming back to you, Dr. Conroy, what can you tell us about some of the nonpharmacologic management options for advanced COPD?

Dr. Conroy:
In general, patients who have significant hyperinflation and very significant air trapping above expectations of normal who also have

significant limitation in their exercise capacity and disabling dyspnea, despite smoking cessation and despite having completed pulmonary rehab, there are opportunities that we can improve their dyspnea, improve their exercise capacity, and even in some small subset of the right patient, improve mortality through lung volume reduction procedures. These options include both lung volume reduction surgeries, and at my center, we do a fair number of these throughout the year, and really can make important differences in patient symptoms. But there's also expanding role in increasing access to bronchoscopic lung volume reductions. And these procedures for the one-way valves are less intensive and less invasive than lung transplantation, and in some cases, can actually help to improve quality of life, even in a pretransplant phase.

And when you have patients who, despite all of these things, or even who've already undergone lung volume reduction procedures with end-stage COPD and hypercarbia, hypoxia, and very low FEV1 with significant limitations in quality of life, lung transplant is another surgical therapy to consider to improve quality and quantity of life for some.

Certainly, for any patients, whether we're talking lung volume reduction, bronchoscopic lung volume reduction, or transplant candidacy, it is the right patient in the right time that these therapies can help to improve quality and quantity of life. And then really to navigate that is referring to centers with significant experience in these procedures.

I'm curious actually, to switch gears for a moment, Dr. Abbas. And when we think back to some of the medical therapies, there's some emerging spaces, and potentially new things to come on the horizon. Specifically, I wonder if you can talk to us a little bit more about the role of type 2 inflammation in COPD and some of the emerging therapies, particularly biologics, in this space.

Dr. Abbas:
Yeah, we know that up to 40% of patients with COPD can have markers of type 2 inflammation, such as elevated absolute blood eosinophils. The patients with evidence of type 2 inflammation could be at high risk for exacerbations, and we already discussed inhaled corticosteroid role, especially when the patients fall in group E.

Something to expect in future, could be a role of biologics in COPD patients with evidence of type 2 inflammation and history of frequent exacerbations. We know that previously, anti-IL-5 therapies such as mepolizumab and benralizumab have yielded largely negative results in COPD. But more recently, two randomized controlled trials named BOREAS and NOTUS, published in *New England Journal of Medicine*, showed that dupilumab, which has anti-IL-4 receptor blocker, which is a combined receptor for interleukin 4 and 13, it showed that dupilumab led to reduction in COPD exacerbation, improvement in lung function, and quality of life for patients with COPD who have absolute eosinophil count of 300 and higher and a history of exacerbation.

But it is important to note that no biologic therapy has been approved by FDA for COPD as of now. If approved, I believe the biologic therapies have potential to significantly improve patient care, particularly for those patients with frequent exacerbation, because those are the patients who are at risk of loss of lung function, and it impairs their life negatively.

So well, we're almost out of our time for today, but before we close, let's each share our key takeaways from our discussion. Dr. Conroy, care to share to start us off?

Dr. Conroy:
Yeah. Yeah, great. Certainly reflecting the importance of comprehensive care, targeting tobacco cessation, correct inhaler use, and adherence, considering access, and making sure that we're giving comprehensive preventive care and advocating for the management of comorbid conditions in partnership with our primary care teams, really is central to providing high-quality evidence-based and whole-person care in COPD. For patients, though, who still have very high symptom burden despite this care, there remain options for advanced procedural therapies, really with the opportunity to improve quality of life, and really not to underscore the role of symptom-based management in COPD and patients with very advanced COPD should not be overlooked.

So those are mine. How about you, Dr. Abbas?

Dr. Abbas:
Yeah. So GOLD 2024 document reported several changes related to spirometry, COPD screening, vaccination, choice of inhaler device, and smoking cessation. The role of type 2 inflammation in COPD is evolving, and new therapies are being investigated to target type 2 inflammation in patients with COPD who are at increased risk of exacerbations, and those therapies might become available in future for patients with COPD.

And with those key takeaways in mind, I want to thank my colleague, Dr. Megan Conroy, for joining me to discuss the symptoms and presentation of COPD. Thank you, Dr. Conroy.

Dr. Conroy:

Thank you, Dr. Abbas, it's been a pleasure.

Announcer:
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