Real-world Tactics to Address Health Inequities in Lung Cancer Care

CMEO Podcast Transcript

Edith Mitchell:

Hello, I'm Dr. Edith Mitchell, and on behalf of CME Outfitters, I would like to welcome you to today's educational activity, entitled Real-world Tactics to Address Health Inequities in Lung Cancer Care.

Today's activity is brought to you by CME Outfitters, an award-winning, jointly accredited provider of continuing medical education for clinicians worldwide, and it is supported by an educational grant from the Johnson and Johnson Institute and the Johnson and Johnson family of companies.

I'm Dr. Edith Mitchell. I am Clinical Professor of Medicine and Medical Cncology in the Department of Medical Oncology. I'm director of the Center to Eliminate Cancer Disparities and Associate Director for Diversity Affairs of the Sydney Kimmel Cancer Center at Thomas Jefferson University in Philadelphia. I am the 116th president of the National Medical Association.

And joining me today is Dr. Ana Velázquez, who is Assistant Professor in the Division of Hematology and Oncology, an Assistant Director of Diversity, Equity, and Accessibility at the University of California San Francisco Helen Diller Family Comprehensive Cancer Center at the University of California at San Francisco in San Francisco, California.

Let's start by reviewing some of our learning objectives for today's session. After participating in today's activity, clinicians should be better able to recognize the impact of health inequities on patients with lung cancer and to develop and craft individual treatment strategies for optimal clinical outcomes.

As we know, lung cancer remains the most common cancer and cause of cancer death in the United States of America. A big part of this is tobacco use. We've seen tobacco use declining for many years now, but tobacco use still continues throughout society. Today, we'll be discussing a case that demonstrates why we need to make sure our patients are being screened for lung cancer, the importance and adequate biopsy and biomarker analysis, and how we can help our patients access the most recent cancer treatment diagnosis and advances.

Dr. Velázquez, I believe you had a recent case that can demonstrate these points that we have just mentioned. So can you go ahead please and describe your patient.

Ana Velázquez:

Yes. Dr. Mitchell, thank you so much for having me here today. We're going to talk about Mr. J, who is a 75-year-old indigenous male, and he has past medical history of hypertension, was recently diagnosed with COPD, and like many of our patients, these are very common comorbidities. He is a former tobacco smoker. He had a 20-pack-year history of tobacco use, but interestingly, he did quit over 25 years ago.

Ana Velázquez:

He also worked as a miner and particularly was exposed to uranium while he worked as a uranium miner for over 10 years. He presented with increasing fatigue and persistent cough and was seen by his primary care doctor and told that his symptoms were aligning with his diagnosis of COPD. So over the past couple of months, no further workup had been done at that time, even though he presented with those symptoms.

I think one of the highlights of this case that is important is that, of course these are very common symptoms, but in people who have particular risk factors for lung cancer, like a prior history of smoking, it is very important to think of whether or not they meet criteria for lung cancer screening. And we know that the US Preventive Service Task Force in 2013 has implemented criteria to adopt and low-dose CT scans for lung cancer screening in former or current smokers. And over the last year in 2021, they have adapted those particular recommendations to try to make them broader and implement to a larger population.

This is important because we know that disparities exist in lung cancer stages of diagnosis and who has access to screening and, particularly, we know that even among those who may have a history of smoking, Black men and White women who are both at high risk of having lung cancer may develop it at a younger age and may have had shorter history of tobacco smoking.

So this new update in guidelines really is important because it increases what the eligibility number of the population might be. So, we're now talking about patients who are current or former smokers who may have quit within the last 15 years and span in the age from what used to be 55- to 80-years old now to include those that are 50. So, moving again towards that younger range, and we have this new guidelines also decreased the number of years of tobacco smoking that somebody needed to have had in the past, which now are 20-pack-years based on current updated guidelines.

This is really important because by increasing eligibility of the patients, we're hoping to also increase the number of lung cancer deaths that are prevented. It makes sense. It's kind of obvious if we find patients at an earlier stage of diagnosis because they receive lung cancer screening, hopefully we're able to provide more curative treatment to a larger percentage of patients and definitely try to gain years of life expectancy.

So we hope that the addition of these guidelines really will increase the amount particularly of minority people and women who have had smoked in the past or current smokers that would be eligible. And that are able to be diagnosed with lung cancers at earlier stages. Based on the lung cancer screening. In particular trials, we know that earlier screening has also led to increase in survival.

Now, one big problem that we face in our healthcare systems is the adoption of lung cancer screening in general. And that has remained particularly challenging. When we compare what the uptake has been of other types of cancer screening, like mammography for breast cancer or pap smears for cervical cancer, colonoscopy fit testing for colon cancer. Those are a lot higher in the overall population compared to what load the impact and penetrance of using low-dose CT scans for lung cancer screening has been.

Ana Velázquez:

And as we can see, those are less than 10%, probably around the 3% to 4% nationally, even though we know that lung cancer is the number one cause of cancer deaths in the nation. I think that we have so much work to do and particularly think of how do we do this in the areas that we can really increase access for patients who are most at risk based on use of tobacco or tobacco prevalence rates.

So going back to the case. This patient is very interesting because of course he has two risk factors. He's a former smoker; by age and by number of years of tobacco, those meet criteria for screening, but he quit longer than 15 years ago. So still trying to highlight that some of this criteria may be quite restrictive, but we need to have high degree of suspicion of who are the patients that should receive lung cancer screening or who we should be thinking about lung cancer diagnosis—more in someone who also was exposed as a miner to uranium and other compounds that increase risk.

So always thinking how the context—who are particular patients and how that social history really impacts our decision making and how do we think of what the differential is of somebody with fatigue, with shortness of breath, who we know has multiple risk factors for lung cancer.

Our patient ends up being diagnosed with metastatic non-small cell lung cancer, particularly the adenocarcinoma subtype, and this is the most common one. And unfortunately being found to have metastatic lung cancer at the time of diagnosis is also quite common, and it's how most of our patients present. That's why, again, really honing in on thinking about screening and the adoption of screening throughout all of our clinical practices is important trying to downstage or think of how do we bring earlier stages in patients who can have curative disease find it earlier on.

He had imaging, which found that he have a very large left hilar mass that was extending into the mediastinum and a four centimeter left upper node mass. He had bulky right-sided control, lateral nodes and a metastatic lesion to the liver. The patient did have an MRI, which showed no brain metastasis. And this is important because the treatment paradigms for lung cancer vary significantly based on what the stage of disease is. And in this patient who has already one metastatic lesion, then we should start thinking about workup for stage four disease and making sure that we're able to diagnose it adequately and offer the treatment options that are important for this particular stage of disease.

Having an appropriate workup is part of what is really vital in terms of deciding what the staging is in an area in which we know that there's still significant disparities. In particular, patients should have, for example, a PET scan, a diagnosis to be able to evaluate those lymph nodes adequately this case, they were large enough that probably could have been caught by a CAT scan, but in many cases it would make the difference between diagnosing somebody who may be a candidate for surgery, may need to receive concurrent chemo radiation for non-surgical disease in stage three, or may identify as small enough metastasis that we otherwise wouldn't find.

And similarly getting that brain MRI to really get a very good staging at diagnosis and identify any potential lesions. Why? Because up to 20% of our patients present with brain metastasis at time of diagnosis. So the number is quite significant. So something that we should always take into account.

Ana Velázquez:

Once somebody is diagnosed with stage four lung cancer, we think about, of course, what are the molecular drivers and the reason being that it is very important for determining what the next treatment options are and whether it really changes the outcomes of our patients. This patient had limited testing, and the testing of his tumor was negative for EGFR, ALK, and ROS1 mutations, but nothing else was performed. And unfortunately, there was insufficient material for further testing, which reflects a quality issue, right?

There are very many barriers to providing access to having good diagnostics and making sure that when patients are undergoing biopsies, sufficient testing is done and sufficient tissue is gathered for sending all of those for molecular tests. So as providers where we're working patients, making sure that we have a discussion with our pulmonologist or our radiologists who are performing these particular biopsies or surgeons and say we need to have a core biopsy, or we need to have sufficient testing to be able to do molecular testing.

And one of the reasons why that is so important is because we're trying to identify what are some of those mutations that may be causing cancer growth and for which we do have specific targeted therapies or opportunities for clinical trials. The standard of care that we try to approach in most centers throughout the United States is performing next-generation sequencing (NGS), which is a broad testing panel for identifying some of those mutations. And that can be through either DNA- or ANA-based testing. And as we can see, there are many, many barriers to trying to adopt what NGS or molecular testing has been across the United States.

And those have led to disparities, which we see of course across the board, but that particularly really impact our minority patient populations or patients of color. And we have data showing that for example, Black patients receive at lower rates molecular testing prior to initiating their first line of treatment, and they also are at lower rates on their NGS or broad panel testing compared to that piecemeal or one step at a time testing. That can lead to delays in diagnosis, and we expect also that similar disparities are likely to exist between Indigenous population, Pacific Islander, Latino, and other groups but unfortunately, as we know, this data is not included in cancer registry so it's quite hard to actually understand or study and obtain data for.

Now, as we think of why this is important, as I mentioned, thinking about how do we obtain tissue for patients, thinking about access and being able to obtain this in time, because it will guide selection. And also it's something that we should do in all patients, because even though we may think that some of this mutations may be more common in in certain demographic groups or in non-smokers, they're still present and it can be present in patients who have a history of smoking and particularly in groups that we may not identify historically as having a molecular driven lung cancer.

So, adopting broad NGS and broad panel testing would definitely lead to better outcomes, higher quality of care, being able to provide patients with the treatment options that are best suited for them, and would decrease the time from testing to actual adequate therapy.

So, the [National Comprehensive Cancer Network] NCCN guidelines strongly suggest the use of using this broad panel approaches. The minimum that is recommended is testing for EGFR. EGFRex20 based on recent new approvals, ALK/ROS1, BRAF, KRAS, the METex14skipping mutations, RET, and NTRK.

Ana Velázquez:

Another important test that should be part of all our workups for lung cancer is PD-L1. And thinking of that, which usually is done as immunochemistry a complementary test, but having a higher PD-L1 does not mean that we should not be testing for NGS or looking for some of those biomarkers. But those should be complementary to each other and definitely something that we commonly see that this PD-L1 test comes sooner than NGS, but we should wait for that NGS to really make determinations about selection of therapy.

There are other markers that are common and that are now emerging. And with that may have additional therapies that are coming up the pipeline and are recently approved. And those would be caught if we use a broad panel testing or NGS as our option. And most all payers should be at this point, really covering this, so it should not be an issue for our particular providers.

One common problem may be the fact that we know that these broad panels take a lot of time. And sometimes our patients present very sick and with symptoms, and we may need to move to therapy quickly. So making sure that we have one...think about ordering these panels earlier and have all the resources in case that the NGS panel takes too long…is to think about liquid biopsies, and liquid biopsies can be super helpful. They look at circulating cancer cells in the bloodstream and similarly, try to catch them, extract the genetic material, and look for the same specific mutations that we know are associated with cancer growth in particular lung cancer. And this can be highly specific but can have up to a 30% false negative. And we do see this sometimes may be correlated with the burden of diseases. If patients have large bulky tumors or smaller amount of tumors, sometimes those who may have smaller tumors or less cancer in general can have falsely negative liquid biopsies.

So going back to our patient, as we said, he had this really small targeted testing for molecular markers, which showed that EGFR and ROS1 mutations were negative, but they didn't have broad testing. We don't know what his PD-L1 status was either. And he unfortunately started treatment with chemotherapy and received carboplatin and pemetrexed, which are very common chemotherapy agents that we use, but nowadays the standard care would be to combine this with immunotherapies particular PD-L1 agents, because we know that those increase survival compared to chemotherapy alone and improve outcomes.

However, when to select immunotherapies will depend on that molecular testing. In patients who have driver mutations like ALK or EGFR, we should not be giving them immunotherapy because there's higher risk of toxicity and we know that targeted therapies work better. So unfortunately in our patient, he did not receive adequate—or what I would call standard of care testing—of his tumor. So ideally we would have had a better quality biopsy to get NGS testing and PD-L1 testing. And similarly, he did not receive standard of care treatment or therapy—again, limited by that specific lack of molecular testing or NGS. So in this case, this patient should have received or been offered either a repeat biopsy or similarly a liquid biopsy, which would be a blood draw and provide in a shorter turnaround time, some guidance on whether or not there was presence of any targets that will open options for him.

Ana Velázquez:

So what are some ways in which we can think of then reducing lung cancer treatment disparities? And I think that this is something that has been highlighted throughout this case. There's a lot of focus in ensuring how our patients are able to get high quality care, and we know that your zip code particularly many times drives more than anything, what our life span and outcomes are. And the reason being that patients who live in underserved communities—who tend to be of lower income, who tend to be racial minorities—have lower access to guideline-concordant care and get care in centers that may not have high quality metrics in terms of surgery outcomes or providing testing or biopsies. So ensuring that we look at the care that we're providing in our centers, that we're able to meet what current quality guidelines are for our patients, is important.

The other part is really thinking about how do we tailor patient education and the cultural aspect of our patients and health literacy? And being able to really explain some of these concepts is hard. Of course, we're talking about genetic drivers and targeted therapies, but making sure that our patients understand… For example, in the case of Mr. J, why would I have offered a repeat biopsy or what is a liquid biopsy, and why those things are important in terms of selection of treatments and how those things translate to longevity, to cancer response rates, to be able to live longer, even though he had a stage four diagnosis.

And lastly, I was also thinking about…is this patient potentially eligible for a clinical trial? And particularly now after he had received first line treatment and received chemotherapy with no response after seven months—what is the next best option? Is it pursuing another chemotherapy, or is it doing a referral towards a center that may have clinical trials available and open other options?

So we know—and everybody, I think, is wide aware in our audience—that disparities in clinical trial access exist and particularly affect patients of color, patients of lower socioeconomic status, and lung cancer is no exception. Similarly, we see lower rates of Black patients participating in clinical trials, and while there are many barriers to clinical trial access, historically one [of the things that] has been believed is that patients wouldn't want to participate or do not want to be tested upon. And in reality, that's not true. We have seen through the data that if you ask patients and explain to them what the studies are, what the goals of the study is, patients of racial minorities and different ethnic backgrounds are as likely to participate as your majority White populations.

So thinking and making sure that it is on one, that we check ourselves, our biases, that it is in the back of our minds all the time. And that we're asking and offering all of our patients access to clinical trials, testing them, doing broad panel molecular testing so they could have access and options to be enrolled in clinical trials is really important.

Edith Mitchell:

So thank you so much Dr. Velázquez for that very interesting case and the management of the case. So this was particularly important but also so well done and thank you.

And what this tells us is that for patients, screening for lung cancer is important. It is available, it works, but there is low uptake. So we've got to remember to obtain adequate histories from patients so that we know if they qualify for screening and if qualified, we should keep this in mind and make sure our patients undergo screening and repeat screening later in the overall management.

Edith Mitchell:

It's also important to know that patients don't walk in with a sign saying *I have lung cancer*, but they may have other disease processes and other comorbidities that one can distinguish or one cannot distinguish. And therefore, remember lung cancer, screening, lung cancer screening, and evaluating patients by the criteria that we use now for determination of screening and making sure that the patients follow up and then follow up with an office visit after the screening process has occurred.

This is how we can reduce lung cancer treatment disparities, and it requires not only diagnostic findings and criteria but also attention to guideline recommendations and adequate care once the diagnostic procedures have been accomplished. So our goals… We can recommend and encourage patients to adhere to the revised lung cancer screening guidelines. Make sure that we perform broad based molecular testing on all advanced lung cancers, by making sure that we have next-gen sequencing and analysis of PD-L1 expression. All of these are very important and help determine therapeutic intervention so that each patient's treatment plan is unique for them and follows the appropriate guidelines. And we should also facilitate enrollment of patients onto clinical trials. Patients are interested in clinical trials and want to participate and that is how we develop new therapeutics—by completing clinical trials—so therefore our patients want to participate, and we must therefore invite the patients and explain the clinical trials to them.

Please visit the CME Outfitters Oncology Hub to access additional activities on relevant oncology topics and the Diversity and Inclusion Hub for discussions on disparities in healthcare, as well as resources and patient education materials.

You can also follow us on Twitter @cmeoutfitters. Again, Dr. Velázquez, thank you so much for your great presentation and discussion today and thank you to our audience for joining us in this discussion. Thank you and have a good day.

Ana Velázquez:

Thank you.

