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Time needed to complete: 56m

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Differentiating and Managing Pneumonitis in Unresectable Stage III NSCLC: Case Discussion

Announcer:

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Dr. Gray:

Hi, this is CME on ReachMD, and I'm Dr. Jhanelle Gray. Here with me today is Dr. Joshua Reuss. And let's start our discussion by looking at a case as we think about how to differentiate and manage pneumonitis in unresectable stage III non-small cell lung cancer.

So this is a 66-year-old patient who quit smoking over 20 years ago and had a history of diabetes. They are diagnosed at stage III unresectable non-small cell lung cancer and underwent concurrent chemotherapy and radiation therapy for 6 weeks with carboplatin and paclitaxel.

After about 2 and a half months of consolidation therapy with durvalumab, the patient presented to the urgent care with worsening shortness of breath and was otherwise asymptomatic. The interval between the radiation therapy and the durvalumab was approximately 18 days. The ECOG performance status is 1, and this is their CT scan.

So, Joshua, when looking at this, what are your thoughts on this patient? What are the first steps that you take to differentiate immune-mediated versus radiation-related pneumonitis?

Dr. Reuss:

It can be a really difficult, challenging scenario to encompass, even if our treatment is oftentimes similar: it's steroids. But, you know, it can be challenging because when you determine if it's related to immunotherapy and it's severe, is this someone who would subsequently warrant a rechallenge with immunotherapy, or is it significant enough to warrant stopping? I think that this case, it illustrates nicely how the inflammation on the CT really overlaps with the radiation field. So that's oftentimes one of my first questions and discussions is talking with our radiation oncologist to say, hey, you know, what was the field of radiation? Is the area of inflammatory change significantly overlapping that? Is it more diffuse? Does it really make sense that it's related to radiation? What's the timing of this development in relation to radiation versus immunotherapy? I think those are some of the more important salient questions as we try to dissect. Is this radiation-related or is it immunotherapy-related? And then ultimately, again, our treatment is typically relatively similar in terms of steroids, tapered steroids. But I think it's really important to determine that underlying etiology to assess is this something that a patient would need to stop the immunotherapy permanently, or can it be rechallenged? And I think in terms of determining risk factors for development of a pneumonitis, it's still definitely an open book. I think there's a lot of mixed results from retrospective data, good prior smoking history, prior ILD, prior changes in lung function all contribute. I think it's likely. I also tend to worry in patients who have a relatively large area, a radiation field that was treated, high-volume disease where oftentimes there can be greater risk for some inflammatory damage.

But how would you approach this scenario and differentiating the two?

Dr. Gray:

I really think that engaging the radiation oncologists early and frequently through these processes is imperative. We have to know where the radiation field was, specifically, what exactly was radiated, and then mirroring that, to look at the CT scans and looking beyond just the radiation field.

I think if a patient like this had bilateral patchy infiltrates that were more diffuse and didn't have that clear demarcation, I would be worried about a checkpoint inhibitor-induced pneumonitis versus this case, I think, highlights nicely that you can sometimes differentiate between the two. I do think this is more radiation-related pneumonitis. And when does it occur? We do know that pneumonitis can occur more commonly within the first few months of receiving the immunotherapy. So I think those are really good points that you raised and then getting that steroid started for treatment management and getting the patients feeling better sooner rather than later. And even if this patient didn't have symptoms, based on the CT findings, I may be inclined to also start them on some steroids, given the extent of the field.

Dr. Reuss:

Kind of like in the metastatic setting, if more diffuse, I'd still have to keep my blinders off and not just hone in on IO pneumonitis. Look for infectious causes. Could there be disease progression? You know, sometimes it warrants empiric treatment if the imaging is appropriate, but particularly if something doesn't seem to fit, that's where I might involve my pulmonary colleagues to consider bronchoscopy. But absolutely a scenario where, again, as in prior, even with diagnosis and treatment decisions, a multidisciplinary discussion to figure out if any diagnostic steps are necessary and then proceeding with appropriate treatment.

Dr. Gray:

I think that's a fantastic summary, and I think that's a very good point about some patients may need additional intervention to differentiate between what's going on. Some cases are not as, I think, as clear cut, so to speak, as this one.

Well, I think this has been a really great discussion. Kind of brief, but I think, hopefully, you've gotten the salient points and that we gave you something to think about. Thanks so much for tuning in.

Announcer:

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