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Case Review: Understanding Benzoyl Peroxide Combination Treatment in Acne

Announcer:

Welcome to CME on ReachMD. This activity, entitled "Case Review: Understanding Benzoyl Peroxide Combination Treatment in Acne" is provided by Prova Education.

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Dr. Stein Gold:

Benzoyl peroxide is one of the foundational treatments of acne. Benzoyl peroxide is an antibacterial agent that kills *Cutibacterium acnes* through the release of free oxygen radicals and is also comedolytic. Unlike antibiotic therapy, no resistance to benzoyl peroxide has been reported. And the addition of benzoyl peroxide to regimens containing antibiotic therapy enhances results and may reduce the development of resistance. Benzoyl peroxide is available in multiple formulations, including leave-on products and washes. Strengths available for acne therapy range from 2.5% to 10%. There are concerns about tolerability due to dryness and skin irritation with these traditional formulations. Are you aware of newer developments in benzoyl peroxide in combination with retinoids that can improve patient outcomes?

This is CME on ReachMD, and I'm Dr. Linda Stein Gold. I'm thrilled to be joined by my friend, colleague, and acne expert, Dr. Hilary Baldwin.

Dr. Baldwin:

It's a pleasure to be here, Linda.

Dr. Stein Gold:

So let's go ahead and dive right into our case. We have a 19-year-old young man who's a Division 1 college skier. He struggled with acne for a number of years, and on evaluation, he has a number of papules and pustules and a number of open and closed comedones involving the face, but his trunk is spared.

So, Hilary, if this patient walked into your office, how would you initially approach his treatment?

Dr. Baldwin:

Well, I think there are 3 major things that we have to consider. The first, of course, is that he's a teenage boy, and he may be different than most teenage boys, but stereotypically, this age group is not particularly good at being compliant with therapy. So, we want to keep it as simple as humanly possible. The second thing we have to think about is that he has a lot of inflammatory lesions – papules and pustules of the face, as well as comedones, so we want to make sure that we're giving him something that's very good at treating inflammatory lesions. And the last thing is his lifestyle choice. He's a skier, and it's winter, and he's going to get extremely dry following his passion, so we have to be very careful with our choice of topical medications. So, all things considered, I would be starting him out with 1 cream and 1 pill a day. I would use an oral antibiotic in him. I want to get him better as fast as possible, and I also want to give him something that is going to minimize our need for multiple topical medications.

I also want to keep it simple by using a combination product for his topical, and using something that is very tolerable is going to be of crucial importance, because if he dries out any further than winter and skiing will dry him out, he's never going to use this product and we're right back to square one.

Dr. Stein Gold:

I totally agree with you. I think the key here is simplicity. Simplify the regimen. The more we give a patient to do, the less likely it is they're going to remember what we told them.

Dr. Baldwin:

Right. You know, I think it was a great idea. The problem is that he comes back, and he says, "You know what? I don't want to use oral antibiotics. I don't like them. I've used them in the past and frankly didn't end up really using it because of concerns about side effects and such. So, I really want to go without an oral medication." What are you going to do now, Linda?

Dr. Stein Gold:

Well, this does happen, and I think it's important to establish that up front. We have some really great treatment options and, Hilary, both you and I were part of the acne treatment guidelines that were published a number of years ago. And we know that we have topical agents that are available that are effective in mild, moderate, and even moderate to severe acne. When we think about them, we think first about topical retinoids. These are kind of the mainstay of therapy. They work well for both the comedonal lesions as well as the inflammatory lesions. Often, we combined a topical retinoid with a benzoyl peroxide.

Benzoyl peroxide, you know, we think of that maybe as our grandfather's acne medication, but this is a really critical part of the acne treatment regimen. As I mentioned, it treats not only the blackheads and the whiteheads, but also the papules and the pustules. And you don't develop resistance to benzoyl peroxide, so that's important. We have to realize, though, that these topical medications can cause some local irritation. We have to remember also that benzoyl peroxide can bleach clothing, so we have to keep that in mind. And then we also have topical antibiotics, which are very commonly used, generally in combination with the benzoyl peroxide and often a topical retinoid.

But as you mentioned, you know, we have a lot of good treatment options. The key is usually to kind of mix and match our treatment options to really hit the 4 pillars in the pathogenesis of acne, and with topical agents we try to be anti-inflammatory. We want to kill the bacteria *Cutibacterium acnes*. Now we're able to decrease sebum with an antiandrogen product, clascoterone. So, the goal here is to really figure out what is going to be the best treatment option giving us the highest efficacy and minimize the local tolerability. And I agree with you that combination therapy is really going to be important, and if we can utilize the fixed combination, I think that's going to be key.

Other thoughts, Hilary, that you have on this?

Dr. Baldwin:

For all of you who are just tuning in, you're listening to CME on ReachMD. I'm Dr. Linda Stein Gold, and here with me today is Dr. Hilary Baldwin. We're discussing the newer developments in benzoyl peroxide combination topical treatment for acne.

Well, the only other thought is that occasionally a patient will make a decision for him or herself that I really think is the wrong decision, and in this case, I think it's the wrong decision for him not to utilize an oral antibiotic. So rather than just letting it go, I usually like to ask a follow-up question. You know, why is it that you don't want to use an oral antibiotic? Because sometimes the answer is something that's erroneous, and we can set them straight, and I say, "You know, I respect your decision, but let's make sure that we're on the same page here," so that in the future, if we need to use an oral antibiotic, he's a little bit more prepped for that moment to occur.

Dr. Stein Gold:

I agree with you, and especially when a patient has more widespread disease, more inflammatory disease. In this case, you know, he does have more moderate acne. He certainly has a lot of inflammatory lesions. He has a lot of comedones. But we do know that we can reach success with topical agents. In this case, we have some special situations. We know that he's a skier. That means he's out in the cold, dry air. We know that a lot of our topicals are going to be irritating, and we have to be very cognizant of this, because as you mentioned, you know, we have to educate what the expectations are, the fact that with most of our topicals, we can see some local irritation. We have to incorporate really good skin care, and that means a gentle cleanser, a good oil-free moisturizer if necessary, and a sunscreen, especially for a skier.

So, Hilary, in this case are there some options? You know, we talk about topical retinoids; we talk about benzoyl peroxide; we talk about the tolerability areas. But we have some new technology that's actually going to simplify using these as combination. Can you comment on that a little bit?

Dr. Baldwin:

Right, and as we've been saying all along, combination therapy is the key here, both in terms of efficacy and in terms of compliant behavior. So, we do have a new medication on the horizon. It's going to be a combination of 3% benzoyl peroxide and 0.1% tretinoin. Now historically, this combination didn't work, right? The benzoyl peroxide oxidized the tretinoin and rendered it inactive. But this very interesting vehicle has figured out a way to physically separate the tretinoin and the benzoyl peroxide within the product by encasing each one of them individually, microencapsulating each one of them individually in its own silica shell so that they don't interact with each other. Additionally, them being in the shell allows the contents to be leaked out very, very gradually so you don't have a large bolus of medication on the skin at the same time, because you might think that tretinoin and benzoyl peroxide, both being dose-dependent irritants, might be a little bit harsh, especially on the skin of a skier.

But with this medication that finished its phase 3 trials, it had a success rate of clear or near clear of about 30%, a nice hefty reduction of both inflammatory and noninflammatory lesions of 50%-60%, and very good safety profile – only a 2% discontinuation rate, and most of the side effects being mild to moderate. So, I think it's going to be a good addition to our armamentarium, both giving us a combination product that will improve compliance in a way which is nonirritating to the skin.

Dr. Stein Gold:

And that's an important message, that with the silica technology we're able to mix these unmixables. I know a lot of people do understand that tretinoin and benzoyl peroxide cannot be used together. You can't take a generic tretinoin and a benzoyl peroxide and put them on at the same time or use a benzoyl peroxide wash because, as you mentioned, they're just not stable together, especially the tretinoin is not stable in the presence of benzoyl peroxide.

So, I think we have come to a fairly good treatment option for this particular patient. As we mentioned, it's a 19-year-old college skier, very serious about his skiing. That means that he spends a lot of time outside in the cold, in the dry air, in the sun. He's not interested in taking an oral antibiotic, and we've come to the consensus that giving him a fixed combination that's well tolerated – in this case, utilizing the tretinoin and the benzoyl peroxide in the fixed combination with the silica shell, we're able to give him a product that gives good efficacy and good tolerability.

Well, this has been a fantastic conversation, but before we wrap up, Hilary, can you give us one key take-home message to share with our audience?

Dr. Baldwin:

Well, I think as we've said before, combination therapy is the key. Combination therapy allows 2 separate agents to act synergistically so that they work better than either agent alone. And in addition, a fixed combination improves compliance and thereby improving efficacy of the drug.

Dr. Stein Gold:

I agree with you. I think keeping it simple, giving a patient 1 thing to do that gives them multiple treatments at the same time actually puts the power in the hands of the prescriber. If you give patients a lot of different things to do, they'll decide what they want to do. If you give them 1 product that has combination therapy, you know they get combination therapy with every treatment.

So unfortunately, that's all the time we have for today. I want to thank the audience for listening, and I'd like to thank you, Dr. Baldwin, for joining me and sharing all of your valuable insights. It was great speaking with you today.

Dr. Baldwin:

My pleasure, Linda. Thank you.

Announcer:

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