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ReachMD

www.reachmd.com

info@reachmd.com

(866) 423-7849

Biologics and Small Molecules for the Management of IBD

Announcer:

Welcome to CME on ReachMD. This episode is part of our MinuteCE curriculum.

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Dr. Lewis:

Thank you for joining me today. I'm Dr. Ayanna Lewis. I am an Assistant Professor of Medicine at the Icahn School of Medicine at Mount Sinai, and I'll be talking to you today about biologics for the management of inflammatory bowel disease.

We have a few learning objectives today. First, we'll start off reviewing the available biologics for the treatment of inflammatory bowel disease, and then go into the mechanism of action of these biologics.

So there are three major biological mechanisms of actions that are available for the treatment of inflammatory bowel disease. They include the anti-integrins, the anti-interleukins, and the anti-tumor necrosis factor medications.

We'll start off by talking about anti integrins. So these are medications that affect leukocyte trafficking, so affect the ability of white blood cells to get into the colon and cause inflammation. Historically, we had access to natalizumab; however, this anti-alpha 4 anti-integrin went out of favor because of concern that it contributed to progressive multifocal leukoencephalopathy. Fortunately, we also have access to vedolizumab, which is an anti-integrin that works on the anti-alpha 4, beta 7 mechanism, and this prevents these white cells from going into the colon and causing inflammation. It's a gut-specific treatment for inflammatory bowel disease, and can be very effective at treating patients who have just inflammatory bowel disease in the gut. And I often turn to it when patients want a medication that doesn't cause significant systemic immunosuppression.

The anti-tumor necrosis factor group of medications, on the other hand, cause a more broad-based blockage of inflammation. These medications act directly on tumor necrosis factor, which is released by white blood cells, and therefore can affect inflammation systemically. It can be very useful in treating patients who have inflammatory bowel disease, not only in the GI tract, but also outside of the GI tract, the so-called extraintestinal manifestations such as inflammatory disease-associated arthritis and among others. These medications include medications such as infliximab, adalimumab, golimumab, and certolizumab.

Moving on to the anti-interleukins, these medications act directly on interleukins. Ustekinumab acts on both interleukin-12 and interleukin-23 while risankizumab and mirikizumab act on interleukin-23 more specifically. These medications then block further downstream effects of inflammation on the JAK/STAT pathway, as well as the activation of TH17 cells and T1 cells, and therefore can affect the inflammatory cascade in that way. Because these act specifically on interleukins, they can give a more specific blockage of the inflammatory cascade, and are often good medications to consider in patients who are concerned about significant immunosuppression because of the specificity of these medications.

So in summary, there are three major biologic mechanisms of action that can be utilized for the treatment of inflammatory bowel disease, and fortunately for us, the available therapies for the treatment of ulcerative colitis and Crohn's disease continue to expand.

I wanted to thank all of you for joining me today. I hope you took something from my talk and something that you can bring to your practice.

Announcer:

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