Flares, prednisone tapers, and early disease control in a randomized trial of tocilizumab to treat giant cell arteritis

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Video Abstract

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Abstract

Giant cell arteritis, or G-C-A, is a disease of the blood vessels, especially those on the side of the head. In G-C-A, inflammation can decrease blood flow, causing headaches and other symptoms, including blurry vision, which sometimes even leads to permanent blindness. The disease, which affects people over 50, is treated immediately with high doses of glucocorticoids, such as prednisone, to lessen inflammation and reduce the risk of vision loss. But patients often need to stay on these powerful drugs for years, and doctors don't have good information about how well this strategy works. Now, researchers from around the world have completed the first large randomized clinical trial of a newer drug, tocilizumab, or T-C-Z, in combination with long-term prednisone tapers in patients with G-C-A. The results show that disease flares are common, even when patients are taking prednisone, although adding T-C-Z reduces that risk. In the trial, researchers evaluated four sets of patients. Two groups received a T-C-Z injection –once weekly, or every other week –and were tapered off of prednisone for 26 weeks. Two placebo groups didnot receive T-C-Z, and underwent either a 26-week prednisone taper, or a slower, 52-week taper. Physicians monitored patients for disease flares and checked for several biomarkers of the disease. Over one year, nearly 40 percent of all patients experienced a flare. Three-quarters of the time, those flares occurred despite patients being on prednisone –underscoring the limitations of the drug in treating G-C-A on its own. The researchers also found that biomarkers, such as C-reactive protein levels and erythrocyte sedimentation rate, were not very predictive of flares, especially in patients taking T-C-Z. This is expected, since T-C-Z blocks interleukin-6 signaling and reduces both values. But it suggests that clinicians should not rely on these tests when trying to manage G-C-A. Finally, patients receiving T-C-Z were more likely to be in remission than those receiving placebo across all starting doses of prednisone, although a quarter of patients receiving T-C-Z still experienced at least one flare while on treatment. T-C-Z resulted in longer time before a flare than prednisone treatment alone among patients who started on lower prednisone doses and underwent the 26-week tapering schedule. More work is needed to understand G-C-A, but the higher rates of remission were apparent as early as 12 weeks, indicating T-C-Z works quickly and could help patients by facilitating disease control and speeding up their prednisone tapers.