Sydney N. Ambrose
L2
LSU Health Sciences Center, School of Medicine, New Orleans, LA

Contributors: Camille M. Gelis, MS; Aliyah B. Pierre, MD
Mentor: Christopher J. Haas, MD
UTHSC, Department of Internal Medicine; LSUHSC, Department of Dermatology

Risk Factors and Comorbidities Associated with Patients Requiring Up-titration of Infliximab and Biosimilar Dosage in Patients with Hidradenitis Suppurativa

Hidradenitis Suppurativa (HS) is a chronic dermatologic condition characterized by recurrent, painful nodules that can drain and form scarring, tunneling tracts in areas prone to friction such as the axillae, groin, buttocks, and inframammary region. Although there is currently no cure for HS, several treatment options are available based on the extent of lesions, scarring, and sinus tracts, which are collectively factored into a staging system referred to as Hurley stage. Several pro-inflammatory cytokines are known to contribute to the formation of HS, most notably tumor necrosis factor alpha (TNF-α). Several treatment options exist for treatment of HS, including topicals, systemic antibiotics, hormonal therapies, retinoids, and immunosuppressants. The current FDA-approved biologic treatments for HS are adalimumab, an anti-TNF-α monoclonal antibody that exerts its effect by suppressing the immune response, and secukinumab, an interleukin-17 inhibitor. Both are given in standard, subcutaneous dosages. Infliximab is another TNF-α inhibitor, given as an infusion with a weight-based dose. Guidelines currently recommend a dosage of 5 mg/kg every 8 weeks which can be titrated up to 10 mg/kg every 4 weeks depending on patient response. However, there is no standardized dosage or infusion frequency established for patients on infliximab, and recent evidence suggests that higher doses and frequencies of administration may be more effective, especially as this condition is associated with obesity. Attaining disease control and arresting progression early is associated with better outcomes. We performed a retrospective chart review of 27 patients who initiated or continued infliximab or a biosimilar for HS at University Medical Center in New Orleans between January 1st, 2020, and December 31st, 2023. For each patient, we recorded disease severity (Hurley stage), duration of infliximab/biosimilar treatment, initial maintenance dosing regimen, current dosing regimen, concurrent and previous treatments, comorbidities, and patient demographics. The mean BMI of our cohort was 36.38. We defined effective treatment as the dosage required to attain disease control, evidenced by disease stabilization and lack of progression as well as decreased lesion drainage, decreased formation of inflammatory nodules, and decrease in patient-reported pain. Of those patients, 33% (9/27) were discontinued due to pregnancy, adverse reactions such as infusion reaction, premature discontinuation due to lack of efficacy at lower dosing, or the maintenance dose was effective but the starting dose was unknown. 7.4% (2/27) were stable on the starting dose and did not require up-titration. 59.3% (16/27) required an increase in dosage to achieve effective treatment. Of these, 87.5% (14/16) were initially on maintenance doses of 5 mg/kg at frequencies varying from every 8 weeks, every 6 weeks, and every 4 weeks, and 12.5% (2/16) were initially on maintenance doses of 7.5 mg/kg every 6 weeks. Of those who required up-titration of dose and/or frequency of administration, 62.5% (10/16) were obese. 37.5% (6/16) were current or former tobacco smokers. Other comorbidities that have been associated with HS that were seen in those patients requiring up-titration of infliximab or biosimilar in our cohort included hypertension (2/16), type II diabetes mellitus (1/16), iron-deficiency anemia/microcytic anemia (4/16), pyoderma gangrenosum (1/16), follicular occlusion diseases such as acne vulgaris or dissecting cellulitis of the scalp (1/16), SAPHO syndrome (1/16), psoriatic arthritis (1/16), and Crohn's disease (1/16). Although retrospective and limited in number of patients studied, this data reinforces the strong association of hidradenitis with obesity especially in patients with skin of color in our patient population. This also may indicate why recent studies have shown that higher dose and frequency infusions of infliximab or its biosimilars tends to be an effective medical management for this condition. Lifestyle modification continues to be an important factor in counseling these patients, especially with regard to body mass index and tobacco usage. The use of GLP-1 antagonists in patients with obesity and hidradenitis suppurativa has been reported to be an effective strategy to decrease disease severity and progression.