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"Optimal Dosage of GLP-1 Receptor Agonists in the Management of Hidradenitis Suppurativa"

Hidradenitis suppurativa (HS) is a chronic, inflammatory dermatologic condition associated with painful lesions, nodules, sinus tracts, and scarring.[1] Patients with HS exhibit lower levels of anti-inflammatory cytokines and increased levels of pro-inflammatory cytokines compared to unaffected individuals, making systemic inflammation a major aspect of the pathology of HS.[1] Glucagon-like peptide-1 receptor agonists (GLP-1 RAs) are a class of synthetic peptides that are used for their metabolic benefits, including increasing insulin production and suppressing appetite, ultimately leading to weight loss.[1] Recent studies suggest that GLP-1 RAs may prove beneficial in the management of HS symptoms and disease progression. GLP-1 RAs inhibit pro-inflammatory cytokines, specifically TNF-α, which is an essential factor in the synthesis of many other pro-inflammatory cytokines. In doing so, GLP-1 RAs reduce the systemic inflammation associated with HS.[1] Additionally, previous studies have suggested a connection between HS and obesity, further supporting the use of GLP-1 RAs for HS management.[1] While semaglutide is the most commonly used GLP-1 RA for HS management, tirzepatide is currently being explored as another treatment option. There is currently no standardized dosing regimen for GLP-1 RAs in the treatment of HS, so our study intends to establish a suggested dosing regimen based on previous case reports and cohort studies. We conducted a systematic review by searching databases, specifically PubMed and Google Scholar, for articles that discussed the dosage of semaglutide and tirzepatide used for the treatment of HS. Upon review, semaglutide, when used in addition to other HS treatments, was effective in improving patient quality of life and reducing HS flares at doses as low as 0.8 ± 0.4 mg weekly, which is below the typical dose prescribed for obesity.[2] However, evidence suggests reductions in HS symptoms increase with increased semaglutide dosage, with one study dosing up to 1.36 ± 0.86 mg weekly.[4] One case study reports the use of tirzepatide for HS treatment. The patient in this study received a dosage up to 7.5 mg/0.5 mL weekly and experienced significant improvement in HS symptoms, with her HS being reduced from moderate to mild over the course of 3 months.[5] When directly compared, tirzepatide was found to lead to greater weight loss (and possible alleviation of HS symptoms) than semaglutide, although tirzepatide had a higher risk (5-7%) of serious adverse effects compared to semaglutide (3%).[6] Semaglutide may be used at low doses (below 1 mg) in addition to other HS treatments or at higher doses (above 1 mg) for possible greater HS improvement. Additionally, tirzepatide provides promise for HS treatment and may be more effective than semaglutide, but more research must be done to establish an optimal dosage.

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