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“Evaluating the Effect of BMI on Adalimumab Dose Response in Hidradenitis Suppurativa: A 10-Year Retrospective Review”

Introduction: Hidradenitis suppurativa (HS) is a chronic inflammatory skin disease characterized by recurrent painful nodules and abscesses and is commonly associated with elevated body mass index (BMI). Understanding whether BMI and adalimumab dosing frequency are associated with clinical response may help guide treatment decisions. This study evaluated the association between BMI category and response to initial adalimumab treatment and compared response to 40 mg weekly versus 80 mg every two weeks within each BMI category.

Methods: A retrospective chart review was conducted using electronic medical records at LSU Health New Orleans/University Medical Center over a 10-year period. Of 351 patients initially identified through screening, 179 adults were included in the reported BMI and initial-treatment response analysis. Patients were categorized as normal weight (18.5–24.9 kg/m²), overweight (25.0–29.9 kg/m²), obesity (30.0–39.9 kg/m²), or severe obesity (≥40.0 kg/m²). Clinical response was classified from chart documentation as improved, unchanged, or worsened. Follow-up duration varied among patients and was categorized as approximately three months, six months, one year, or greater than one year. Clinical response was compared across BMI categories. Within each BMI category, improvement versus no improvement was compared between initial dosing regimens using two-sided Fisher’s exact tests.

Results: The analysis included 22 normal-weight, 35 overweight, 70 obese, and 52 severely obese patients. Overall, 120 patients (67.0%) demonstrated clinical improvement. Improvement occurred in 63.6%, 65.7%, 71.4%, and 63.5% of patients in the respective BMI categories. The distribution of improved, unchanged, and worsened responses did not differ significantly across BMI categories ($p = 0.779$). Among normal-weight patients, improvement was more frequent with 40 mg weekly than with 80 mg every two weeks (14/17 [82.4%] versus 0/5 [0%]; $p = 0.0021$). No statistically significant differences between regimens were observed among overweight patients (70.4% versus 50.0%; $p = 0.4024$), patients with obesity (72.0% versus 70.0%; $p = 1.000$), or patients with severe obesity (62.8% versus 66.7%; $p = 1.000$).

Conclusion: BMI category was not significantly associated with clinical response to initial adalimumab treatment. Weekly dosing was associated with greater improvement among normal-weight patients, with no significant differences in other BMI categories. This finding remains exploratory given the small subgroup and multiple comparisons. Variable follow-up and qualitative response assessments limit interpretation. Further studies with standardized outcomes and consistent follow-up are needed.

