Efficacy and safety of micronized isotretinoin administered once daily without food in patients with recalcitrant nodular acne

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Background: Micronization substantially improves the gastrointestinal absorption of oral isotretinoin, allowing for administration without food and a smaller administered dose compared with conventional isotretinoin. Micronized isotretinoin is approved for the treatment of severe recalcitrant nodular acne in nonpregnant patients 12 years of age and older at a recommended dose of 0.4 to 0.8 mg/kg/day given in 2 divided doses with or without meals. Although practitioners may suggest once-daily dosing of oral isotretinoin to hopefully increase patient compliance, data are limited supporting this recommendation.

Methods: In this open-label pilot study conducted at 2 centers, patients ≥12 years of age with recalcitrant nodular acne (Investigator's Global Assessment [IGA] score ≥4 and more than 5 facial nodules with diameter ≥5 mm) received micronized isotretinoin 0.4 to 0.8 mg/kg/day once daily *without food* for 20 weeks. All patients had to follow iPLEDGE requirements. The coprimary efficacy endpoints were change from baseline in total facial nodular lesion count (NLC) and percentage of patients reporting ≥90% reduction in NLC after 5 months (Week 24). Secondary efficacy endpoints included percentage of patients achieving an IGA score of clear or almost clear (IGA 0/1) and percentage reductions in inflammatory and noninflammatory lesions after 5 months (Week 24). Safety and tolerability were assessed from frequencies of adverse events and severity of erythema, dryness, peeling, oiliness, burning, and pruritus. Statistical analyses included all enrolled patients with missing data imputed by last observation carried forward.

Results: Of 24 patients enrolled, 22 completed the study; the majority (14/24) were male, and the mean ± standard deviation (SD) age was 20 ± 6 years. The coprimary and secondary endpoints were all met: from baseline to Week 24, the median (quartile [Q]1, Q3) decrease in NLC was 6 (5, 7), 100% of patients experienced complete clearance of nodules, 23/24 (96%) patients achieved IGA 0/1, and the mean ± SD percentage reduction in lesion counts was 97.8% ± 5.7% for inflammatory lesions and 98.4% ± 6.2% for noninflammatory lesions (all P <0.0001), with significant improvements in all endpoints observed at each visit. Small, significant, early increases from baseline were observed in severity of erythema, dryness, and peeling. There were a total of 3 adverse events reported in 2 patients, none of which were serious or considered related to treatment.

Conclusion: Treatment with micronized isotretinoin without food once daily for 20 weeks was well tolerated and highly efficacious in patients aged ≥12 years with recalcitrant nodular acne.

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