ACNE, ROSACEA, AND RELATED DISORDERS (INCLUDING HIDRADENITIS SUPPURATIVA)

THE ANTI-INFLAMMATORY PROPERTIES OF IVERMECTIN AND BRIMONIDINE IN THE TREATMENT OF PAPULOPUSTULAR ROSACEA

L Stein Gold [1] - E Lain [2] - A Harvey [3]

Henry Ford Medical Center, Dermatology, Detroit, United States [1] - Austin Institute For Clinical Research, -, Pflugerville, United States [2] - Galderma, Medical Affairs, Fort Worth, United States [3]

Introduction: Recent studies suggest a promising synergy between Ivermectin (IVM) and Brimonidine (BR) in papulopustular rosacea (PPR). The pathophysiology of PPR is not fully understood; however, evidence indicates that immune and inflammatory responses play an important role in the disease. Multiple trials have demonstrated the efficacy of ivermectin 1% cream (IVM) and brimonidine 0.33% gel (BR) for treatment of the inflammatory lesions and erythema of PPR, respectively.

Objective: Investigate the anti-inflammatory properties of ivermectin and brimonidine in PPR treatment.

Materials and Methods: In mice, ear edema was induced via topical TPA 0.01%, followed by topical vehicle, IVM (0.1% to 1%), or BR 0.2%. Ear thickness (µm) was measured using a micrometer.
In human subjects, in a multicenter, randomized, double-blind, vehicle-controlled study of moderate/severe rosacea (investigator global assessment [IGA] ≥3) patients were treated with once-daily:
BR (morning) and IVM (evening), 12 weeks (IVM+BR/12W; n = 49)
BR vehicle and IVM, 4 weeks, followed by BR and IVM, 8 weeks (IVM+BR/8W; n = 46)
BR vehicle and IVM vehicle, 12 weeks (n = 95).
Assessments included IGA (0-4), Clinician's Erythema Assessment (CEA; 0-4), and inflammatory lesion count. Adverse events (AEs) were monitored throughout the study.

Results: In the mouse, IVM treatment inhibited TPA induced skin inflammation in a dose?dependent manner. Combination treatment using topical IVM and BR further reduced ear edema. In human subjects, IVM+BR showed superior efficacy in all subgroups, with the greatest efficacy seen in the IVM+BR/12W group vs vehicle (IGA success [clear/almost clear], 61.2% vs 36.8%, P=0.003). Eight treatment-related AEs in 6 subjects (3.2%) were reported (including treatment-related worsening of rosacea: 1 with IVM+BR (subject 8090-116), 3 with vehicle).

Summary: Adding BR to IVM treatment further reduced inflammation in vivo, compared to IVM alone. In human subjects, the combination demonstrated good efficacy and safety.