



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

TREATMENT OF FACIAL FLUSHING AND ANXIETY WITH CARVEDILOL IN ERYTHEMATOTELANGIECTATIC ROSACEA PATIENTS, A PROSPECTIVE RANDOMIZED CONTROLLED CLINICAL STUDY

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Introduction: Treatment of erythematotelangiectatic rosacea (ETR) is extremely challenging, because of the severe facial flushing and anxiety, which form a vicious cycle of reciprocal causation in the pathogenesis. Several case reports suggested the role of beta-blockers in the treatment of ETR, but there are not any prospective and randomized controlled clinical studies to evaluate the effects of systemic administration of beta-blocker in treating ETR.

Objective: Carvedilol, a non-selective beta-blocker, could alleviate the flushing, erythema and anxiety in patients with ETR. Tetracyclines such as minocycline, doxycycline are approved by the FDA as IA evidence for treating rosacea. The aim of this study was to evaluate the clinical efficacy of carvedilol and minocycline in the treatment of ETR.

Materials and Methods: This is a prospective, single-center, single-blind, randomized, controlled clinical study. Patients received carvedilol 5mg bid or minocycline 100mg QD for 3 months. Patients would receive specific questionnaire including the rosacea-specific QoL instrument (RosaQoL), patient self assessment (PSA), clinicians erythema assessment (CEA), generalized anxiety disorder (GAD-7) and patient health questionnaire (PHQ-9). In addition, pictures of face every 2 weeks were taken.

Results: From Mar 2017 to Sep 2018, 102 patients (52 for Carvedilol; 50 for Minocycline) were enrolled; 96% (N=98) completed the study. The CEA/PSA scores decreased $\geq 20\%$ in 96.0% carvedilol and 68.8% minocycline patients ($P < 0.0001$), and the RosaQoL/GAD-7/PHQ-9 scores decreased $\geq 35\%$ in 90% carvedilol and 41.7% minocycline patients in the first month ($P < 0.0001$). And the CEA/PSA/RosaQoL/GAD-7/PHQ-9 scores decreased $\geq 50\%$ in 84.0% carvedilol and 25.0% minocycline patients in the third month ($P < 0.0001$). A total of 8.8% patients reported an adverse event. Most common was minocycline related dizziness, no hypotension was found.





Conclusions: Treatment of low-dose carvedilol could more effectively alleviate severe rosacea flushing and anxiety/depression in comparison to minocycline, which might be a effective systematic treatment for ETR.

