

## A Therapeutic Approach for Bromhidrosis with Glycopyrrolate 2% Cream: Clinical Study of 20 Patients

**Authors :** Vasiliki Markantoni, Eftychia Platsidaki, Georgios Chaidemenos, Georgios Kontochristopoulos

**Abstract :** Introduction: Bromhidrosis, also known as osmidrosis, is a common distressing condition with a significant negative effect on patient's quality of life. Its etiology is multifactorial. It usually affects axilla, genital skin, breasts and soles, areas where apocrine glands are mostly distributed. Therapeutic treatments include topical antibacterial agents, antiperspirants and neuromuscular blocker agents-toxins. In this study, we aimed to evaluate the efficacy and possible complications of topical glycopyrrolate, an anticholinergic agent, for treatment of bromhidrosis. Glycopyrrolate, applied topically as a cream, solution or spray at concentrations between 0,5% and 4%, has been successfully used to treat different forms of focal hyperhidrosis. Materials and Methods: Twenty patients, six males and fourteen females, meeting the criteria for bromhidrosis were treated with topical glycopyrrolate for two months. The average age was 36. Eleven patients had bromhidrosis located to the axillae, four to the soles, four to both axillae and soles and one to the genital folds. Glycopyrrolate was applied topically as a cream at concentration 2%, formulated in Fitalite. During the first month, patients were using the cream every night and thereafter twice daily. The degree of malodor was assessed subjectively by patients and scaled averagely as 'none', 'mild', 'moderate', and 'severe' with corresponding scores of 0, 1, 2, and 3, respectively. The modified Dermatology Life Quality Index (DLQI) was used to assess the quality of life. The clinical efficacy was graded by the patient scale of excellent, good, fair and poor. In the end, patients were given the power to evaluate whether they were totally satisfied with, partially satisfied or unsatisfied and possible side effects during the treatment were recorded. Results: All patients were satisfied at the end of the treatment. No patient defined the response as no improvement. The subjectively assessed score level of bromhidrosis was remarkably improved after the first month of treatment and improved slightly more after the second month. DLQI score was also improved to all patients. Adverse effects were reported in 2 patients. In the first case, topical irritation was reported. This was classed as mild (erythema and desquamation), appeared during the second month of treatment and was treated with low-potency topical corticosteroids. In the second case, mydriasis was reported, that recovered without specific treatment, as soon as we insisted to the importance of careful hygiene after cream application so as not to contaminate the periocular skin or ocular surface. Conclusions: Dermatologists often encounter patients with bromhidrosis, therefore should be aware of treatment options. To the best of our knowledge, this is the first study to evaluate the use of topical glycopyrrolate as a therapeutic approach for bromhidrosis. Our findings suggest that topical glycopyrrolate has an excellent safety profile and demonstrate encouraging results for the management of this distressful condition.

**Keywords :** Bromhidrosis, glycopyrrolate, topical treatment, osmidrosis

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