Case Report

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Topical Glycopirrolate for the Management of Hyperhidrosis in Herpetic Neuralgia

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Herpes zoster is a relapse of varicella. In certain cases, long-term pain and hyperhidrosis have been noted. Appearance of herpes zoster during pregnancy is infrequent. We described hyperhidrosis and pain treatment using glycopirrolate cream in a pregnant woman with herpetic neuralgia. A 32 year old woman, 21 weeks pregnant with second child, complained to her gynecologist of the appearance of a vesicular rash on the left half of the forehead that progressed toward her left eyelid, accompanied by lancinating pain, allodynia, hyperhidrosis and small edema, blepharitis and conjunctivitis. Following clinical and laboratory tests, she was diagnosed with herpes zoster ophtalmicus. Aciclovir therapy was administered 800 mg orally five times daily for seven days. Pain therapy was initiated with amitriptilline. We discontinued amitriptilline therapy after 10 days because of appearance of unwanted side effects. After skin changes ceased, we introduced Lidocaine patch into pain therapy which reduced the allodynia, but not the lancinating pain and hyperhidrosis. At that time we began using glycopirrolate cream which reduced pain intensity by 28.5% within 24 hours, and completely eliminated hyperhidrosis. After 48 hours of use, the pain completely disappeared. During the Glycopirrolate cream therapy, there were no side effects. This is a first report to document that a topical Glycopirrolate cream has a beneficial effect in a patient with hyperhidrosis and herpetic neuralgia.

Key Words : Amitriptyline, glycopirrolate, herpes zoster, hyperhidrosis

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INTRODUCTION

Herpes zoster is a relapse of varicella. The disease manifests itself through skin changes, itching and pain in the area of one or more proximate spinal or cranial nerves. Its presence in the ophthalmic branch of the N. trigeminus is manifested as herpes zoster ophtalmicus. Complications on the skin can develop as superinfections, most frequently with streptostaphylococcus, such as conjunctivitis, uveitis or keratitis. In certain cases, long-term pain and hyperhidrosis have been observed. The appearance of herpes zoster during pregnancy is not a frequent occurrence.[1] We describe the treatment of hyperhidrosis and pain using glycopyrrolate cream in a pregnant woman diagnosed with herpetic neuralgia.

CASE REPORT

A 32 year old woman, 21 weeks pregnant with second child, complained to her gynecologist of the appearance of a vesicular rash on the left half of the forehead that progressed toward her left eyelid. Three days prior to the appearance of skin changes prodromal symptoms appeared in the form of general weakness, an occipital headache, sensation of increased body temperature and a mild itch in the affected dermatome. When skin changes appeared, they were accompanied by increased body temperature (37.5°C), itching, a high intensity burning and lancinating pain, allodynia, hyperhidrosis, and small edema. Clinically

everything pointed to herpes zoster ophtalmicus which follows the first division of the fifth cranial (trigeminal) nerve. Besides skin changes, the eye was affected by blepharitis and conjunctivitis. Following clinical examination, the clinical diagnosis was established as herpes zoster with virological confirmation of the clinical diagnosis. Patient had herpes zoster for the first time. In view of the expansion of the herpes zoster toward the left eye, Aciclovir therapy was initiated immediately, 800 mg orally five times daily for seven days, with skin treatment with cool compresses and mechanical cleansing. Aciclovir therapy was initiated 50 hours following the appearance of the first symptoms and 5 hours after the patient came in for examination. Blepharitis treatment was palliative with cool compresses, topical lubrication, and a topical broad-spectrum antibiotic as prevention for secondary bacterial infection (usually *Staphylococcus aureus*). The patient received out-patient care with daily review. Four days following initial examination, the patient complained of pain in the area of the dermatome which was becoming more intense and unpleasant, preventing normal sleep and everyday functioning. The patient defined the intensity of the pain according to the Visual Analogue Scale (VAS scale). At that moment it was equal to 5.5 (moderate pain). Pain therapy was initiated with amitriptyline 12.5 mg at night. The dose was increased to 25 mg after 3 days. According to the VAS scale, the pain ranged between 3 to 4 (3.5) during this therapy. Basic therapy cured the skin changes, but did not terminate the pain. We discontinued amitriptyline therapy after 10 days because of the appearance of unwanted side effects: sedation, dry mouth, constipation. Following the curing of skin changes which lasted 2 weeks, the lancinating pain remained accompanied by hyperhidrosis in the dermatoma zone, especially after meals. The intensity of the remaining pain was between 3 to 4 (3.5) according to the VAS scale. After curing the skin changes we introduced Lidocaine patch 5%. The patient used the patch for one week. Topical Lidocain reduced the allodynia, but not the lancinating pain (still 3.5) and the hyperhidrosis. At that time, we introduced glycopyrrolate cream. Glycopirrolate cream 1% in thin layers was applied in the area of the tender skin on the forehead and within 24 hours it reduced the intensity of the pain by 28.5% (VAS=2.5; mild pain), and completely cured the hyperhidrosis. After 48 hours of use the pain therapy continued for another 7 days and was then discontinued. The pain and the hyperhidrosis did not reappear, there were no side effects during he glicopirrolate cream therapy.

DISCUSSION

Herpes zoster can develop at any age, but the highest incidence is after 50 years. Overall, it occurs in 20% of the population with more than one recurrence in 4%.[2] The rash of zoster is often intensely pruritic and spreads throughout the dermatome, evolving through papular, vesicular and crusting stages. It usually lasts two to four weeks. The most troubling symptom is usually pain, which ranges from mild to severe and from burning to lancinating. Paraesthesiae, or anaesthesia and allodynia (pain induced by touch, often from trivial stimuli) can accompany severe pain. The pain may be self-limited or persist beyond the rash for up to a year ("postherpetic neuralgia"). Another relatively common complication is herpes zoster ophthalmicus (2-4%), which follows fifth cranial (trigeminal) nerve first division. It ranges from keratitis to more severe iritis.[3] Herpes zoster during pregnancy is not associated with intrauterine infection. It is usually mild in this age group and viraemia is uncommon unless the woman is immunocompromised. Prior to the appearance of the herpes zoster virus (HZV), our patient was subjected to stress due to a death in the family. Given that our patient came to our clinic within two days of the onset of the disease, with a case of ophthalmic zoster which was confirmed in laboratory tests, we decided to initiate Aciclovir therapy which is recommended in cases like this as it does not lead to unwanted side effects in the mother and the unborn child. Virus isolation by culture is the laboratory gold standard and works best when lesions are fresh and moist. Systemic antiviral therapy is able to shorten the healing process of acute herpes zoster, to prevent or to alleviate pain and other acute and chronic complications, particularly when given within 48 hours to a maximum of 72 hours after onset of the rash. Systemic antiviral therapy is urgently indicated in patients beyond the age of 50 years and in patients at any age with herpes zoster in the head and neck area, especially in patients with zoster ophthalmicus.[4] We used antiviral therapy after 50 hours from the appearance of the disease. Aciclovir therapy yielded good results, although the severe and persistent pain in the area of the affected dermatome required the introduction of new medication. We use combined therapy with small doses of Amitriptyline administered orally, which is most often used for herpetic pain, but in combination with Lidocaine patch.[5] The appearance of unwanted side effects persistent pain and the hyperhidrosis led us to the idea of attempting Glycopirrolate cream 1% which is easily applied to the skin and removed with water. Glycopirrolate cream used in Frey's syndrome proved to be excellent in hyperhidrosis therapy.[6] Findings indicate the disappearance of pain. Also it was very interesting noticing that pain and sweating disappeared simultaneously. We think that Glycopirrolate had blocking effect at muscarinic receptors and local nerves. Goldstein findings suggest facial pain and sweating resulting from occupation of muscarinic cholinergic receptors after acetylcholine release from local nerves.[7] Ulus found higher serum choline levels in pregnant.[8] Choline is a precursor for phosphatidylcholine, acetylcholine biosynthesis and a methyl donor. Drummond suggests that irritating the eye induces a trigeminal-parasympathetic vasodilator reflex and local sweating.[9] Our patient had strong eye irritation by zoster ophtalmicus. Finally, this is first report to document that topical

Glycopirrolate cream has a beneficial effect in a patient with hyperhidrosis and herpetic neuralgia.

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