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Symptoms and complications of Herpes Zoster Ophthalmicus in Patients Admitted to Ayatollah Rouhani Hospital in Babol

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ABSTRACT

BACKGROUND AND OBJECTIVE: Since in patients with herpes zoster ophthalmicus (HZO), intraocular involvement is common and sometimes leads to eye-threatening complications, the aim of this study was to determine the symptoms and complications of herpes zoster ophthalmicus in patients.

METHODS: This cross-sectional study was performed through convenience sampling among 26 patients with herpes zoster ophthalmicus admitted to Ayatollah Rouhani Hospital in Babol during 2009-2016. Variables such as age, gender, involved eye, associated disease, and associated symptoms were evaluated in patients diagnosed with herpes zoster ophthalmicus.

FINDING: The mean age of the patients was 61.6±16.3 years. Half of patients (50%) were male and the left eye was involved in 15 cases (57.7%). Hypertension was observed in 11 cases (42.3%) and diabetes was observed in 9 cases (34.6%). Pain was observed in 23 cases (88.5%), and erythema and skin lesions were the most commonly observed symptoms in the patients, each with a frequency of 15 (57.7%). Six patients (23.1%) were normal in the ophthalmologic examination and complications were observed in 20 cases (76.9%).

CONCLUSION: The results of this study showed that pain is the most common symptom of herpes zoster ophthalmicus and eye involvement is associated with complications in most cases.

KEY WORDS: *Herpes zoster ophthalmicus (HZO), Symptoms of the Disease, Complications*.

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Introduction

Herpes zoster is a disease that is caused by the re-activation of the varicella zoster virus in a person previously infected with chickenpox and has been associated with several causes and factors in the reactivation of the virus (1). Although this disease is self-limiting, it is important because of its complications and is associated with a decline in quality of life and is very costly (2, 3).

The incidence of herpes zoster is increasing worldwide due to unknown causes (4). Immunodeficiency, especially cellular immunity, which occurs with age and can be associated with other diseases, is strongly associated with an increased risk of severe and complicated varicella infection (5). Over the past six years, vaccine to prevent herpes zoster has been confirmed in people with healthy immunity (3). On the other hand, the epidemiology of the disease has not been influenced by the zoster vaccine, and the lack of strong advice from doctors for its prescription has been a major barrier to the use of this vaccine (4).

Herpes zoster ophthalmicus is the involvement of the ophthalmic branch of the cranial nerve 5 (6), and 30 to 20% of people develop herpes zoster during their lifetime, and about 10 to 20% of the cases are herpes zoster ophthalmicus, and in the absence of antiviral treatment, about half of them experience intraocular involvement (7).

The ocular manifestations include: eyelid dysfunction as a result of scars, ptosis, conjunctivitis, episcleritis, scleritis, infectious or neurotrophic keratitis, iridocyclitis, hemorrhagic retinitis, acute retinal necrosis, choroiditis, papillitis, retrobulbar neuritis, optic atrophy, Argyll Robertson pupils, pupillary paralysis, internuclear ophthalmoplegia, acute or chronic glaucoma, orbital apex syndrome and sympathetic ophthalmia. The important issue with these complications is that they can lead to blindness (5).

Since intraocular involvement is common in patients with herpes zoster ophthalmicus, and sometimes leads to eye-threatening complications, the pattern of ocular manifestations was investigated among patients with herpes zoster ophthalmicus admitted to Rouhani Hospital in this study. Early detection of eye involvement in patients with herpes zoster ophthalmicus and their timely treatment can help to prevent delayed and vision – threatening complications.

Methods

This cross-sectional study was carried out among the patients admitted to Ayatollah Rouhani Hospital in Babol, Iran during 2009 – 2016 (code of ethics: MUBABOL.HRI.REC.1395.71).

People who were hospitalized in the infectious diseases section after being diagnosed with herpes zoster ophthalmicus and after undergoing ophthalmology counseling in an eye clinic, and were examined by slit lamp and fundoscopy, and their disease was confirmed by clinical symptoms (8) and the doctor's opinion, were included in the study. The studied variables included age, gender, the involved eye, accompanying disease (hypertension, diabetes, hyperlipidemia, cerebral infarction and ischemic heart disease), accompanying symptoms (swelling, erythema, skin lesions, pain, lachrymation, burning eyes and blurred vision), and examination (edema, episcleritis, conjunctivitis, uveitis, nerve paralysis, keratitis, and glaucoma).

The accompanying disease was determined based on the patient's medical history and the accompanying symptoms were evaluated based on an examination of an infectious disease specialist and eye specialist. Data were entered into the computer after encoding and were analyzed by SPSS 20 software and the indices of descriptive statistics were extracted.

Results

This study was performed on 26 patients with herpes zoster ophthalmicus. The mean age of the patients was 61.6 ± 16.3 years, ranging from 26 to 88 years. Half of the cases were male and the left eye was involved in 15 cases (57.7%). Hypertension was found in 11 cases (42.3%) and diabetes in 9 cases (34.6%) (Table 1).

Pain was observed in 23 cases (88.5%), and erythema and skin lesions were the most commonly observed symptoms in the patients, each with a frequency of 15 (57.7%).

Six patients (23.1%) were normal in the ophthalmologic examination and complications were observed in 20 cases (76.9%). Conjunctivitis with a frequency of 9 cases (34.6%), episcleritis with 7 cases (26.9%) and edema with 6 cases (23.1%) were the most commonly observed findings in the ocular examination of patients (Table 2).

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Table 1. Distribution of basic characteristics of patients with herpes zoster ophthalmicus

Basic characteristics		N(%)
Gender	Man	13 (50)
	Woman	13 (50)
Involved eye	Left	15(57.7)
	Right	11(42.3)
Accompanying disease	Hypertension	11(42.3)
	Diabetes	9 (34.6)
	Hyperlipidemia	4 (15.4)
	Brain infarction	4 (15.4)
	Ischemic heart disease	4 (15.4)

Table 2. Distribution of symptoms and ocular examination results in patients with herpes zoster ophthalmicus

Symptoms and examinations		N(%)
Symptoms	Swelling	11(42.3)
	Erythema	15(57.7)
	Skin lesions	15(57.7)
	Pain	23(88.5)
	Lachrymation	3(11.5)
	Burning	4(15.4)
	Blurred vision	1(3.8)
Examinations	Edema	6(23.1)
	Episcleritis	7(26.9)
	Conjunctivitis	9(34.6)
	Uveitis	4(15.4)
	Nerve paralysis	2(7.7)
	Keratitis	2(7.7)
	Glaucoma	2(3.8)

Discussion

The results of this study showed that 20 (76.9%) of the subjects had ocular complications in the examination. In a study by Puri et al. in 2011, 68 patients with herpes zoster ophthalmicus were examined and 77.9% of these patients showed a variety of ocular involvement (9), which is similar to the present study and indicates the importance ocular involvement in these patients. Therefore, eye examinations should be considered in these patients. In the present study, conjunctivitis with a frequency of 9 cases (34.6%), episcleritis with 7 cases (26.9%) and edema with 6 cases (23.1%) were the most commonly observed findings in the patients. In a study by Puri et al. among 68 patients with herpes zoster ophthalmicus, eyelid and adnexal involvement was the most common type of ocular involvement (45.8%), while conjunctivitis (41.1%), corneal complications (38.2%), and uveitis (19.1%) were the following ocular involvements in these patients (9). In a similar study by Borkar et al. in Hawaii among 134 patients with herpes zoster ophthalmicus, the most common ocular complication was dermatitis, followed by keratitis and conjunctivitis (6).

In another study by Yawn et al. in Minnesota USA, of 2035 patients with herpes zoster ophthalmicus, 9% had ocular involvement, and the common ocular complications were: keratitis (76.2%), uveitis (46.6%), and conjunctivitis (35.4%) (3).

Comparison of this study with other studies has shown that there is a wide variety of ocular manifestations among these patients. Moreover, the results of various studies showed that conjunctivitis is a common disease that has been reported as the most common ocular manifestation. In this study, pain with a frequency of 23 cases (88.5%), erythema and skin lesions (15 cases) (57.7%) were the most common accompanying symptoms in the studied patients. In a study done by Schaftnaar et al. in South Africa on 48 patients, blurred vision was reported in 94% of cases and ocular pain was reported in 79% of cases (10).

In the present study, the mean age of patients was 61.6 ± 16.3 years. In a study by Puri et al., 64.7% of patients with herpes zoster ophthalmicus were over 40 years of age (9).

In another study by Edell et al. in Washington on 64 patients, 71% of patients were over 60 years of age (11). In the study of Tran et al. in Miami, the mean age of the patients was 68 ± 13.8 years old (12).

Comparison of the results of this study and other studies shows that this disease is more common among the elderly. In the present study, the gender distribution of the subjects was equal. In a study by Puri et al., 68 of the patients with herpes zoster ophthalmicus, 54.4% were male and 45.6% were female (9). In a study by Kahloun et al., of 45 studied patients, 53.3% of patients were male and 46.7% were female (7), which is similar to the results of the present study. The results of this study showed that ocular complications were observed

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in a significant proportion of patients and ocular involvement was associated with complications. Therefore, the need for preventive measures to prevent blindness seems necessary.

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