

## Relations of Age, Sex, Distribution and Associated Diseases with *Herpes zoster*

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*Between 1992 and 1995, 57 cases of herpes zoster were investigated according to sex, age, predilection of site, seasonal variation and complications or associated diseases. In sex and age distribution, males were more than females, and the patients were commonly affected after the age of 40. No seasonal variations were observed. Complications noted in 8 cases were herpes zoster ophtalmicus in 3 patients, Ramsay Hunt's syndrome in 2 patients, and postherpetic neuralgia in 3 patients. Underlying malignancy was seen in one patient. The most common site of lesions was the thoracal dermatomes. Predilection of left side to right side were equal, but the lesions were commonly sited on left side in females and right side in males. This finding may be due to perinatal testosterone that would suppress the left brain and thymus gland. [Journal of Turgut Özal Medical Center 1997;4(1):29-32]*

**Key Words:** Herpes zoster, dermatomal distribution, complications

### ***Herpes zoster'de yaş, cinsiyet, dağılım ve birlikte bulunan hastalıklar arasındaki ilişki***

*1992-1995 yılları arasında muayene ve tedavi edilen 57 Herpes zoster'li hasta; cinsiyet, yaş, yerleşim yeri, iklimsel farklar, komplikasyonlar ve ilave hastalıklar yönünden incelendi. Hastalık 40 yaşın üstündeki erkeklerde daha fazla görülüyordu. İklim dağılımı özellik göstermiyordu. Komplikasyonlar; 3 hastada oftalmik zona, 2 hastada Ramsey-Hunt sendromu ve 3 hastada postherpetik nevralji şeklindeydi. Bir hastada zana'nın alta yatan nedeni olarak malignensi bulundu. En sık yerleşim yeri torakal dermatomlardı. Lezyonlar kadınlarda vücudun sol tarafında, erkeklerde sağ tarafında daha fazla yerleşim gösteriyordu. Bu bulgu, sol beyin ve timus bezini baskılayan perinatal testosteron ile ilişkili olabilir. [Turgut Özal Tıp Merkezi Dergisi 1997;4(1):29-32]*

**Anahtar Kelimeler:** Herpes zoster, dermatomal dağılım, komplikasyonlar

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Herpes zoster is a viral disease characterized by unilateral radicular pain and a vesicular eruption on the skin. It almost always seen unilaterally. Lesions are generally limited to a dermatome innervated by a single spinal or cranial sensory ganglion (1). In a previously unexposed individual, a clinical or subclinical attack of varicella develops when he or she is first exposed to varicella virus. During this infection, the virus may become latent and lie dormant in the ganglion cells of dorsal nerve or extramedullary cranial nerve roots. Reactivation of the virus is accompanied by the clinical picture of herpes zoster (2,3).

Although the disease may be seen in any age group, it usually affects adult individuals. Most of the patients are over 50 years old and only 10% of reported cases are under 20 years of age (4). This phenomenon has been attributed to a selective decline in cellular immunity to varicella virus with age (5).

Herpes zoster occurs sporadically throughout the year without seasonal prevalence, both sexes and all races are involved equally (4,6,7).

Herpes zoster is sometimes associated with underlying cancer. It is common in patients with malignancies, especially lymphoma (3,6,8).

The area innervated by the trigeminal nerve, especially the ophthalmic division and the dermatomes from T3 to L2 are the most frequently affected sites. The thoracic region alone accounts for more than one-half of the cases, and lesions rarely occur below the elbows and knees (4,6,8).

In this study, it was aimed to research if the age, sex and seasonal variations affect occurrence of herpes zoster, and also complications and associated disease.

## MATERIALS AND METHODS

From 1992 to 1995, 57 patients with herpes zoster who attended to Atatürk University Medical Faculty Hospital were included in this study. Both outpatients and in patients were evaluated. Various clinical features at the time of diagnosis, such as dermatomal distribution and extension of disease, complications such as postherpetic neuralgia and ophthalmic disorders were noted. All patients were

investigated for an underlying malignancy and associated disease.

## RESULTS

This study included 57 patients, 23 females (40.35%) and 34 males (59.65%), aged from 6 to 80 years (mean 41.86).

All patients with herpes zoster had lesions unilaterally and bilateral involvement was absent. Twenty nine patients (50.87%) had lesions on the left side of the body and 28 patients (49.13%) had lesions on the right side. Although the involvement of the left or right side of the body was equal, the lesions were most commonly seen on the left side in females (19 at left side and 4 at right side) and on the right side in males (24 at right side and 10 at left side).

The dermatomal distribution of the lesions was shown in Table 1.

**Table 1.** Dermatomal distribution of herpes zoster.

Dermatome	n	%
Trigeminal*	12	21.05
Thoracic	30	52.63
Lumbar	3	5.27
Upper limb	5	8.77
Lower limb	5	8.71
Facial	2	3.51

\*(Including 4 patients with ophthalmic involvements.)

Unilateral involvement of the thoracic dermatomes was the most frequent and accounted for over half of the cases. Trigeminal involvement was seen in 21.05%, including ophthalmic division. The rates of involvements of cervical region and upper limb, lower limb, and lumbar areas were each less than 10% of the all cases.

Complications of herpes zoster in the patients were shown in Table 2.

**Table 2.** Complications of herpes zoster observed among 57 patients

Parameter	n	%
Post herpetic neuralgia	3	5.26
Ramsay Hunt's syndrome	2	3.5
Ocular complications		
Keratouveitis	3	5.26

Age distribution of the patients was shown in Table 3.

**Table 3.** Age distribution of the patients

Age (years)	n	%
1-10	2	3.51
11-20	6	10.53
21-30	2	3.51
31-40	8	14.04
41-50	9	15.78
51-60	14	24.57
61-70	10	17.53
71-80	6	10.53

As seen in Table 3, 37 of 57 patients (65%) were over than 40 years old and 8 patients (14.04%) were younger than 20 years old.

Distribution of the cases according to the months of the years during this study is shown Table 4.

## DISCUSSION

Several authors contend that men are most often afflicted with herpes zoster (9), but others say women may be in higher risk (8,9) or there is no sex preference at all (4). In this study, it was observed that males were more commonly affected than females.

Ratio of involvement of left side to right side was equal in this study (29/28), and bilateral lesions were absent. Rogers et al reported that there was no difference between involvement of left or right side of the body as seen in the present study (4).

In this study, lesions placed mostly in the right side of the body in males but commonly in the left side in females. Geschwind and his collaborators have proposed that perinatal testosterone would suppress the left brain and thymus gland (10-14). Neveu et al (1988) have shown that left-handed

mice exhibit higher mitogen- induced T-lymphocyte proliferation than right-handed mice and concluded that the cerebral influence on immunity is lateralized (14). Dane and Tan (1994) found that tuberculin reaction is stronger in left-handed children than right-handed ones. (15) Neveu et al (1991) have also shown that the difference in T-lymphocyte responsiveness between right- and left-handed mice persist after right cortex ablations but is abolished after left cortex lesions (16).

In this study, lesions placed mostly in right side of the body in males (71%), but mostly in left side in females (83%). This difference between male and female may be due to perinatal testosterone that would suppress the left brain and thymus gland. Because in herpes zoster there is diminished T-lymphocyte activity (5,17,18).

In this study, according to site of predilection, more than half of the cases were seen on thoracic dermatomes, followed by areas innervated by trigeminal, and lateral cutaneous nerves. Among the 57 patients, the location of the lesions was thoracic in 30 patients (52.63%), trigeminal in 12 patients (21.05%), both cervical plus upper limb and lower limb in 5 patients (8.77%), facial in 2 patients (3.51%) and lomber in 3 patients (5.27%). Many authors declared similar results (3,4,6-9,19).

Herpes zoster is said to be more common in patients with malignancies than in normal people (3,8). Goffinet el al reported that the incidence of herpes zoster infection was 11.4% in patients with lymphoma (6), in studies of Schimpff et al zoster occurred in 25% of patients with Hodgkin's disease, 8.7% in other lymphoma patients, but in only 1.2% of patients with acute leukemia, and 1.8% of patients with solid tumors (3).

Rusthoven et al observed that the site of the primary tumor correlated with the site of subsequent zoster infection among patients with breast, respiratory tract, and gynecologic cancer (8). In the present study, there was only one patient with gastric cancer who had trigeminal involvement.

Other diseases associated with herpes zoster were discoid lupus erythematosus, vitiligo, psoriasis, and asthma, in addition three patients had intestinal parasites.

Although, herpes zoster can be seen in all ages, children are infrequently affected (4). The attack

**Table 4.** Distribution of the herpes zoster by month of the years

Months	patients (n=57)
December	10
January	7
February	3
March	5
April	3
May	2
June	7
July	4
August	3
September	2
October	8
November	3

rate during the first two decades is approximately seven times less than the seventh decade (8,9). Several authors have postulated that the increase in incidence with age is due to decrease in the activity of cellular and humoral immunity (5,17,18).

There was no seasonal variation in the incidence of the disease in this study. Some authors reported similar results (4,6). In the present study, it was found that 3 patients (5.26%) had post herpetic neuralgia, 2 patients (3.5%) had Ramsay Hunt's syndrome, and 3 patients (5.26%) had keratouveitis as complications. In his series Ragozzino has reported post herpetic neuralgia in 9% of patients and ocular complications 20 % of patients with ophthalmic involvement (9).

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