

Study of Epidemiological - Clinical Aspects, and Complications of Herpes Zoster in adults, in Albania

Esmeralda Meta¹, Pellumb Pipero², Najada Como³, Mario Pipero⁴

^{1,2,3}University Hospital Center "Mother Theresa", Department of Infectious Diseases, Tirana, Albania

⁴Faculty of Public Health, University of Debrecen, Hungary

Abstract: *Herpes Zoster is the reactivation of the Varicella Zoster Virus in adults in terms of decreasing of immunity as a result of various causes. The virus lies dormant in the roots of the dorsal ganglia spinal cord for years after the expiration of the primary infection in the form of chickenpox in childhood. Although in most cases passes as a limited self rash accompanied by pain, in some cases shingles can make heavy evolutions, even serious complications. This study offers an overview of epidemiological, clinical and complications of Herpes Zoster in adults hospitalized in infectious service, UHC "Mother Teresa", during the period January 2009 - December 2013. Were taken in study 90 cases from 15 - 90 years old. We classified them based on epidemiology; gender distribution predominantly women of 53%, average age of the subjects affected at the time of diagnosis was 54.9 ± 14.9 , residence, rural or urban area, distribution by years where in 2010 with 38.8%. according to the immune status dominated immunocompetents 62.3%. According to clinical data, constitute the main weight pre herpetic pain 77%, the prodromal signs temperature ranged in values $37.9^{\circ}C \pm 0.8$. Based on the type of vesicles, 68.8% simple, with frequent dissemination in the thoracic area of 39%, followed by those in the region of the head and less lumbar - sacral. PHN as dominant complication in 44% of cases, followed by meningitis, keratitis and encephalitis. The initial assessment should indicate the possibility of atypical manifestations. After initial treatment, further care directed towards the occurrence of complications. Pain relief should be the primary concern.*

Keywords: Herpes Zoster, Adults, Albania

1. Introduction

Herpes Zoster is an acute infection caused by reactivation of the latent varicella zoster virus, which mainly affects adults. The cause of reactivation is unknown, but it is linked to stress, aging, and immune impairment. It is characterized by the development of painful vesicular skin eruptions that follow the underlying route of cranial or spinal nerves inflamed by the virus.

As more children are vaccinated against chickenpox, adult immunity against herpes zoster is decreased. The total duration of the disease from onset to complete recovery varies from 10 days to 5 weeks. It is estimated that about 50% of people who live to age 80 will have an attack of herpes zoster, pain develops along affected skin and persists for months after resolution of the rash.

2. Epidemiology

The incidence of herpes zoster increases with age. In the general population, the incidence of herpes zoster increases by 10-20%, which amounts to 50% in individuals aged 85 years old. [24] More than 66% of patients are older than 50 years old. The incidence of PHN (Post herpetic neuralgia) also increases with advancing age.

About 95% of young adults and 99.5% of adults over 40 years old or older, have antibodies to VZV and are so affected to the reactivation of infection. [17] A person of any age with a previous infection may develop varicella zoster, but the incidence increases with advancing age, as a result of the collapse of immunity. People who have an increased risk

for herpes zoster include those with cancer, about 25% of patients with HIV, who have undergone bone marrow or solid organ transplantation (7-9% of those who do kidney or heart transplant experience a period of zoster), or who are taking immunosuppressive medications, or transplant-related immunosuppressive medications. Studies found that more women than men develop herpes zoster [1,2]; the reason for a possible difference between women and men is not known, and during the lifetime, groups with a high risk, such as the population of elderly and immunocompromised have higher incidence than 50%. [20]

Herpes zoster is rare between in young children and adults, except in younger patients with AIDS, lymphoma, other malignancies, and other immune deficiencies and in patients who have bone marrow transplant or kidney. Less than 10% of patients with zoster are younger than 20 years old and only 5% are younger than 15 years old. Although zoster is primarily a disease of adults, it is evidenced weeks of birth, occurring in babies born to mothers who have had primary VZV infection during pregnancy.

3. Clinical Aspects

Herpes zoster can start with prodromal sensory phenomena along one or more dermatomes lasting 1- 10 days (approximately 48 hours), which usually appear as pain, itching or paresthesia less. [37] which may result in misdiagnoses until the appearance of eruptions.

Clinical manifestations of herpes zoster divided into 3 phases, Preeruptive phase (preherpetic neuralgia), eruptive acute phase, chronic phase (postherpetic neuralgia). The

density of vesicles ranging from the presence of a small number of vesicles to the emergence of clusters of vesicles, which often join to form the bula, during this phase, almost all adult patients experience pain.

Clinical forms are classified according to topography: ophthalmic herpes zoster, herpes zoster maxillary branch, herpes zoster mandibular branch, herpes zoster oticus, herpes zoster glossopharyngeal and vagal, herpes oksipito - collaris (nerve involvement C2 and C3 vertebrae), encefalitic herpes zoster, mielitic herpes zoster, herpes zoster disseminated, herpes zoster unilateral involving multiple dermatome, herpes zoster recurrent herpes zoster involving the bladder, herpes zoster involving other internal structures, herpes zoster with motors complications, zoster without shingles.

Complications: Herpes zoster involving cranial nerve (CN), may be associated with conjunctivitis, keratitis, corneal ulceration, iridociklit, glaucoma, immediate visibility dropping to blindness. Oticus complications of herpes zoster (Ramsay Hunt syndrome): a zoster touched CN V, CN IX) may include peripheral facial nerve weakness and deafness. Herpes zoster may be associated with a secondary bacterial infection in the rash area. Necrotising fasciitis is a possible complication. Secondary meningoencephalitis after a cephalic herpes zoster is more likely to occur in immunocompromised patients than immunocompetent patients.

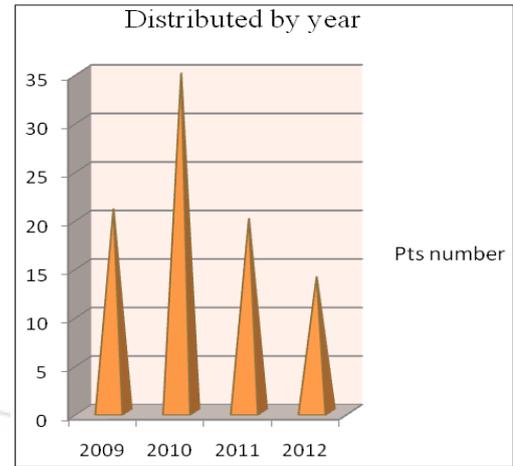
Other complications of CNS - includes myelitin, cranial nerve palsy and granulomatous angina. Granulomatous angina may result in a cerebrovascular accident. Zosteri is first disseminated to immunocompromised persons. Guillain - Barré syndrome is a rare complication from reactivation of latent VZV, and facial paralysis in cases and we Zoster zoster sine

4. Materials and Method

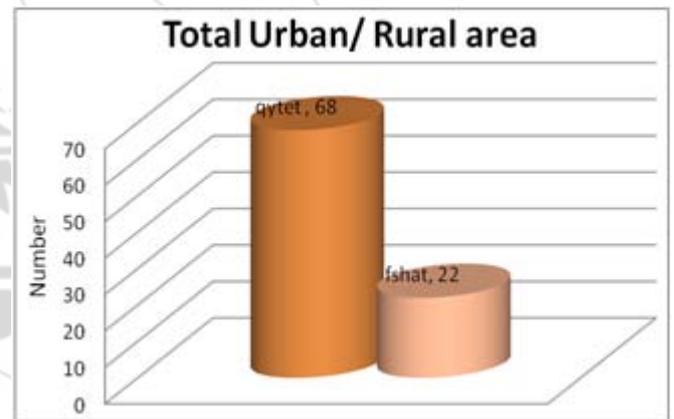
Data for the realization of this retrospective study, are used by clinical records and data UHC Infectious Service, the Statistical Service UHC and IPH 90 patients cards have been studied, ages 15-90 years, admitted to the Infectious Service UHC, in the period January 2009 - December 2012, retrospectively. For all patients previously compiled a file type (database) which includes a set of parameters necessary for our study.

5. Results

In our study covering the period 2009 - 2012 the largest number of cases was observed in 2010 with 35 patients diagnosed with Herpes Zoster (chart 1).

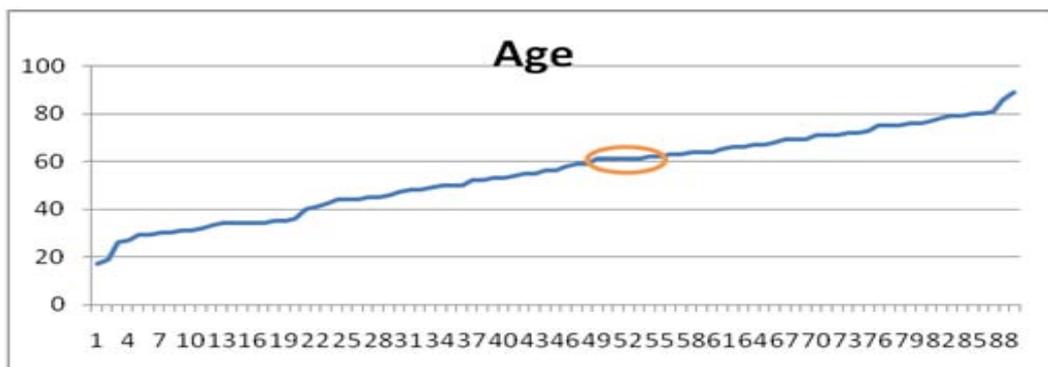


Based on data from the study showed that the highest number of patients affected is in urban areas, 68 of the 90 cases studied. (chart 2)



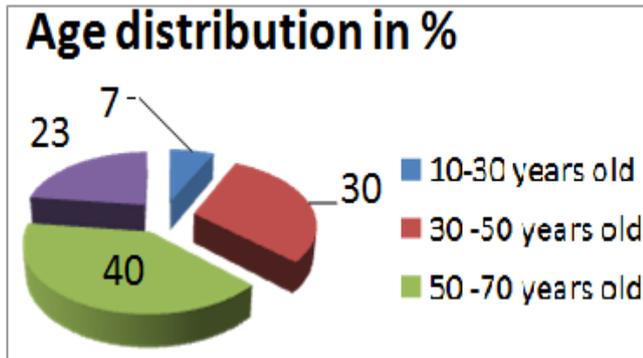
The districts with the largest number were in Tirana with 73%, followed by 4% Durres, Kruja, Fier, Shkodra by 3%, while other districts with 1%

Data on the age of diagnosis of our patients are shown in Figure No. 3 The average age of the study subjects received at the time of diagnosis was 54.9 ± 14.5, median 56 years.(chart 3)

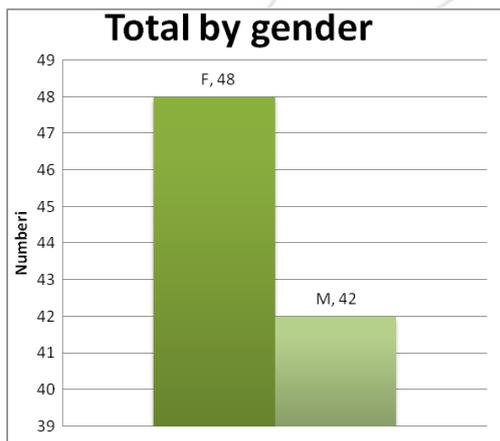


The analysis of data shows that the age group most affected by the Herpes Zoster is 50-70 years. About 70% of patients are older than 50 years old in accordance with the theory. Less affected age group is 10-30 years old. (Chart 4)

Age-related demographics

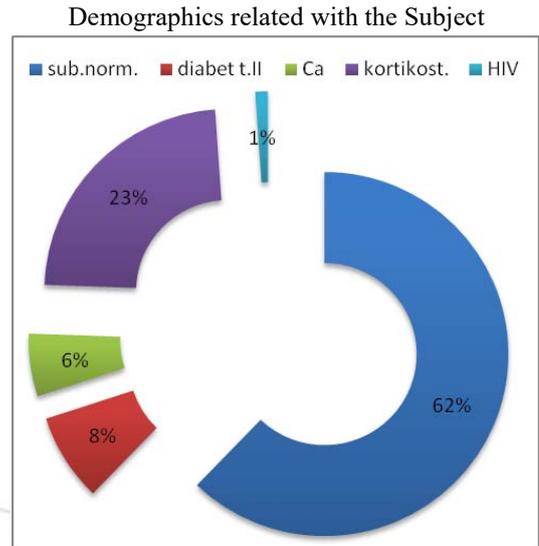


On the basis of the gender distribution of our patients were 48 females and 42 males, the report is more or less in line with the findings of most studies in this field, although there is no clear shpegim for this predominantly female (chart 5)



It is noted that 62% of patients studied were normal subjects and 38% are immunocompromised patients (23% with

corticoid therapy, type 2 DM 8%, 6% with cancer, and 1% HIV) (chart 6)

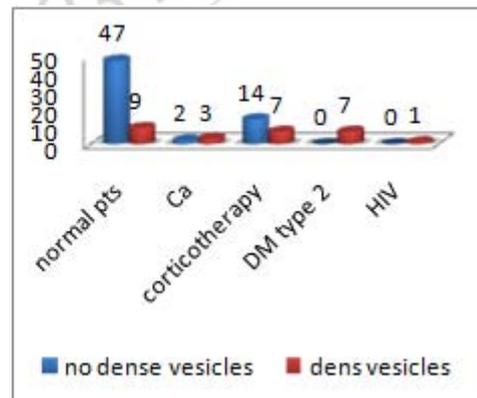
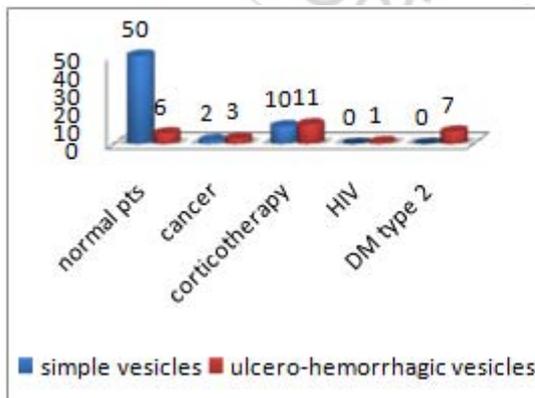


The survey found that the number of duration of stay of our patients was 7.2 ± 2.6 average.

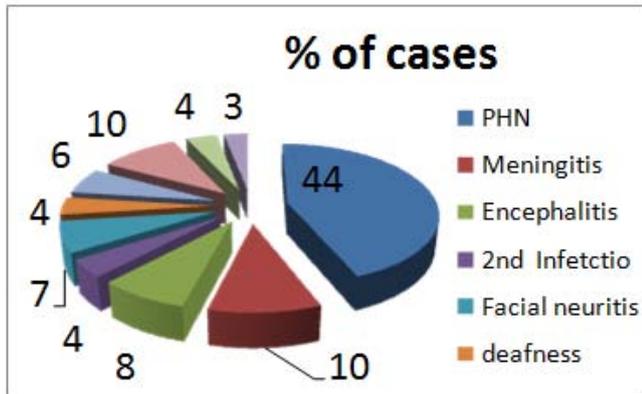
In our study the percentage of pain before the appearance of herpetic elements occupies the major share with 77%. Start of pain during herpetic appearance of elements coincides with 9% of cases. The average temperature of our patients receive the study at the time of diagnosis was 37.9 ± 0.8 ° C with a variation of values of 36.1- 40.3 ° C.

According to our survey showed that 62 patients were presented with simple vesicle, among which 50 normal subjects, 2 Ca and 10 with corticoid therapy. The rest of the patients, 28 resulted in blisters ulcero - hemorrhagic among which: 6 normal subjects, 7 Diabetes mellitus type 2, 3 Ca, 11 with corticoid therapy and 1 HIV. (chart 7)

The type and density of vesicles



The data showed a topographical spread more frequent in the thoracic region (39%), consistent with theoretical data, followed by a high frequency in the region of the head and Lumbo - sacral. In the study patients was observed that 72 of them present complications in a percentage distribution as follows, where the largest source of PHN with Roughly 44% to the theoretical values.(chart 9)



6. Conclusions

From the analysis of our study was observed that the specific weight of diseases until 2013 was 2.1% in our clinic. Herpes Zoster is a widespread disease in our country. Most of the cases were from middle and North East Albania. The districts with the highest number of cases were Tirana (72% of cases) and Durres (4% of cases). Resulted urban areas more affected than rural areas, with 69 cases from 90 subjects of the study. The disease was prevalent more among women (48 cases), although no explanation for this predominance Age groups most affected resulting 50-70 years (40% of cases) at a higher level than the age group 70-90 years, due to the fact that life expectancy in our country is lower than in other states. The average age was 44.9 ± 14.5 years old.

Cases reported in 2010 accounted for the majority with 31%. The average number of patients duration of stay in hospital was 7.2 ± 2.6 days. The clinical spectrum of patients resulted in these symptoms: pain, fever and skin herpetic elements. 77% of patients were referred to the onset of pain before the appearance of blisters on the skin and pain 9% of them had begun with the emergence of elements. The temperature ranged from $36.1-40.3$ ° C with an average value of 37.79 ° C. In analyzing the type and density of vesicles it showed that 50 subjects had normal simple vesicle and 6 ulcero - hemorrhagic, among them 47 with blisters jodense and 9 dense vesicles. Some of Semua with 2 of them resulted simple vesicle jodense and 3 -hemorrhagjike ulcero dense vesicles.

Subjects with kortikoterapi resulted simple vesicle 10 and 11Ulucero - hemorrhagic, among them 14 with veziklua jodense and 7 with dense vesicles. Patients with type 2 mellitus Daibet 7 with blisters resulted ulcero - hemorrhagic and dense and HIV case presented vesicles ulcero - hemorrhagic dense. Referring HZV topography there was a greater number of cases touch thoracic (27 cases), headache (20 cases) and lumbosacral 14 times.

In our patients it was observed as complication dominant PHN with 44% of cases. Keratitis Meningitis and Encephalitis 10% and 8% each.

7. Discussion

7.1 Ongoing Monitoring and Prevention

Zoster's typical cases can be treated in hospital and does not require prolonged chase. Zosterit typical cases can be treated in hospital and does not require prolonged chase. Patients should be informed about the natural progression of herpes and its potential complications.

The initial assessment should indicate the possibility of atypical manifestations. Pain relief should be the primary concern. After initial treatment, further care directed towards the occurrence of complications (eg. The secondary infection, or tactile eye, meningeal or visceral) and consequences such as PHN. Patients who develop PHN should be constantly observed and supported the apart emotionally Therapy

Routine use of the vaccine virus is weakened VZV living has led to a reduction in the incidence of primary varicella infection. Moreover, vaccinated children have demonstrated lower levels of herpes zoster than those infected by natural exposure to VZV. [97,98]

However, the effect of childhood vaccination in the incidence of herpes zoster in the adult population remains to be clarified. Prevention and weakening of herpes zoster is especially desirable in elderly patients because zosteri is more frequent and associated with more complications in the older population and that due to the collapse of cellular immunity in older age groups It brings a high dole for zoster. Zostavax is generally well tolerated by older adults. [99] A programming a zoster vaccine immunization in old age may have cost - effectiveness and the potential to reduce the incidence of herpes zoster or reduce its severity.

References

- [1] Medical Dictionary. The free dictionary.com/hepers+zoster
- [2] Garland J. Varicella folloëing exposure to herpes zoster. N Engl J Med . 1943;228:336
- [3] Seiler H. A study of herpes zoster particularly in its relationship to chicken pox. J Hyg 1949;47:253 -262.
- [4] Weller TH, Witton HM. The etiologic agents of varicella and herpes zoster: serologic studies ëith the viruses as propagated invitro. J Exp Med . 1958;108:869-890.
- [5] Gnann J W Jr, W hitley RJ. Clinical practice. Herpes zoster. N E ngl J Med . Aug 1 2002;347(5):340 – 6
- [6] Schmader K, George LK, Burchett BM, Pieper CF. Racial and psychosocial risk factors for herpes zoster in the elderly. J Infect Dis . Nov 1998;178 Suppl 1:S67-70.
- [7] Araújo LQ, Macintyre CR, Vujacich C. Epidemiology and burden of herpes zoster and post - herpetic neuralgia in Australia, Asia and South America. Herpes . Sep 2007;14 Suppl 2:40 -4.
- [8] Ultsch B, Köster I, Reinhold T, Siedler A, Krause G, Icks A, et al. Epidemiology and cost of herpes zoster and postherpetic neuralgia in Germany. Eur J Health Econ . Dec 28 2012.

- [9] Nagasako EM, Johnson RW, Griffin DR, Elpern DJ, Dw orkin RH. Geographic and racial aspects of herpes zoster. *J Med Virol* . 2003;70 Suppl 1:S20 – 3.
- [10] W ung PK, Holbrook JT, Hoffman GS, Tibbs AK, Specs U, et al. Herpes zoster in immunocompromised patients: incidence, timing, and risk factors. *Am J Med* . Dec 2005;118(12):1416
- [11] Schmader K. Herpes zoster in older adults. *Clin Infect Dis*. May 15 2001;32(10):1481- 6.
- [12] Insinga RP, Itzler RF, Pellissie r JM, Saddier P, Nikas AA. The incidence of herpes zoster in a United States administrative database.
- [13] *J Gen Intern Med* . Aug 2005;20(8):748 – 53.
- [14] Ertunç V, Dane S, Karakuzu A, Deniz O. Higher herpes zoster infection frequency in right - handed patients and more frequent appearance in the left body side of females. *Acta Derm Venereol* . May 1997;77(3):245
- [15] Karlin JD. Herpes zoster ophthalmicus: the virus strikes back. *Ann Ophthalmol* . Jun 1993;25(6):208 - 15
- [16] Sharma A, Makrandi S, Modi M, Sharma A, Marfatia Y. Immune reconstitution inflammatory syndrome. *Indian J Dermatol Venereol Leprol* . Nov - Dec 2008;74(6):619 - 21.
- [17] Nouri K, Ricotti CA Jr, Bouzari N, Chen H, Ahn E, Bach A. The incidence of recurrent herpes simplex and herpes zoster infection during treatment eith arsenic trioxide. *J Drugs Dermatol* . Feb 006;5(2):182 - 5.
- [18] Goh CL, Khoo L. A retrospective study of the clinical presentation and outcome of herpes zoster in a tertiary dermatology outpatient referral clinic. *Int J Dermatol* . Sep 1997;36(9):667-72.
- [19] Dw orkin RH, Johnson R W , Breuer J, Gnann J W , et al. Recommendations for the management of herpes zoster. *Clin Infect Dis* . Jan 1 2007;44 Suppl 1:S1- 26
- [20] Galil K, Choo P W , Donahue JG, Platt R. The sequelae of herpes zoster. *Arch Intern Med* . Jun 9 1997;157(11):1209 -13.
- [21] W estenend PJ, Hoppenbrouëers W J.[Fatal varicella - zoster encephalitis; a rare complication of herpes zoster]. *Ned Tijdschr Geneesk* . Mar 21 1998;142(12):654 - 7.
- [22] Fabian VA, W ood B, Croëley P, Kakulas BA. Herpes zoster brachial plexus neuritis. *Clin Neuropathol* . Mar – Apr ;16(2):614
- [23] Shapiro JS. Does varicella -zoster virus infection of the peripheral ganglia cause Chronic fatigue Syndrome?. *Med Hypotheses*. Nov 2009;73(5):728 -34
- [24] Ogita S, Terada K, Niizuma T, Kosaka Y, Kataoka N. Characteristics of facial nerve pals y during childhood in Japan: frequency of varicella - zoster virus association. *Pediatr Int* . Jun 2006;48(3):245 - 9.
- [25] Ozcan A, Senol M, Saglam H, Seyhan M, Durmaz R, Aktas E, et al. Comparison of the Tzanck test and polymerase chain reaction in the diagnosi s of cutaneous herpes simplex and varicella zoster virus infections. *Int J Dermatol* . Nov 2007;46(11):1177-9
- [26] Koh MJ, Seah PP, Teo RY. Zosteriform herpes simplex. *Singapore Med J* . Feb 2008;49(2):e59 - 60
- [27] Jemsek J, Greenberg SB, Taber L, Harvey D, Gershon A, Couch RB. Herpes zoster - associated encephalitis: clinicopathologic report of 12 cases and revieë of the literature. *Medicine (Baltimore)* . Mar 983;62(2):81-97.
- [28] Homsy J, Katabira E, Kabatesi D, Mubiru F e. Evaluating herbal medicine for the management of Herpes zoster in human immunodeficiency virus - infected patients in Kampala, Uganda.
- [29] *J Altern Complement Med* . Dec 1999;5(6):553 - 65.
- [30] Berry JD, Petersen KL. A single dose of gabapentin reduces acute pain and allodynia in patients eith herpes zoster. *Neurology* . Aug 9 2005;65(3):444 -7.
- [31] [Best Evidence] D e orkin RH, Barbano RL, Tyring SK, Betts RF, et al. A randomized, placebo - controlled trial of oxycodone and of gabapentin for acute pain in herpes zoster. *Pain* . Apr 2009;142(3):209- 17