

Quality of Pain in Herpes Zoster Patients

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ABSTRACT

Pain typically accompanies acute herpes zoster and persists well beyond rash healing. Different types of pain are reported by patients with herpes zoster. Current studies show that these types of pain vary with respect to their presence, location, duration, intensity and quality, hence pain needs to be analyzed more thoroughly. The aim of the study was to assess different components of pain in patients with herpes zoster. The study subjects were 46 patients diagnosed with herpes zoster and selected out of 493 patients treated at the Pain Therapy Clinic, the outpatient facility of Zagreb Clinic for Traumatology, in 2010. Measures used to assess pain and daily activities were the following: SF McGill Pain Questionnaire, Visual Analogue Scale, Self-Assessment of Life Satisfaction, Health Satisfaction and Enjoyment in Life. Analgesic treatment together with demographic and clinical characteristics of patients were also taken into account. The results have shown that the patients report about spontaneous pain mostly in terms of the following qualities of high level pain intensity: throbbing, aching, hot-burning and sharp. The results also demonstrate that herpes zoster pain significantly affects the patients' everyday living quality and their emotional health. Comprehensive assessment of pain is necessary for clinical research about the epidemiology, natural history, pathophysiologic mechanisms, treatment, and prevention of pain in herpes zoster.

Key words: herpes zoster, pain intensity, quality of pain, psychosocial aspects

Introduction

Herpes zoster develops as a result of zoster virus reactivation in the spinal cord roots of dorsal ganglia¹. It is characterized by typical rash in innervations areas of cranial and spinal nerves. Statistical data for the U.S.A. show the incidence of about 300 000 to 500 000 cases a year, the incidence being higher in people above 60 years of age². Some authors report the incidence of herpes zoster to be about 20% in the general population, whereas it ranges up to 50% in the population group of 85 years of age and above³. Herpes zoster begins and ends with pain of varying intensity. Some authors report about different stages of pain. For example, Dworkin, White, O'Connor and Hawkins⁴ differentiate between three pain stages: acute pain (lasts 30 days after the onset of rash); post-herpetic neuralgia (PHN – lasts about 120 days following the onset of rash), and subacute herpetic neuralgia (SHN – lasts more than 30 days by can be treated prior to making PHN diagnosis). In any case, the most significant clinical manifestations of herpes zoster

include acute neuritis (acute pain or acute neuropathy) and post-herpetic neuralgia (PHN, or chronic neuropathy)¹. Acute neuropathy is defined as pain occurring before and during the eruption of vesicles. Such a prodromal pain can include different symptoms, e.g. itching, burning, tickling, intense pain. It usually lasts about 30 days after vesicles have erupted. Most patients experience pain caused by acute neuritis in terms of rapid increase in intensity and its slow diminishing². Post-herpetic neuralgia refers to pain that lasts more than 120 days following eruption of rash despite healing of skin lesions.

The incidence of chronic pain in general population is relatively low, but it increases with age, so that in older patients with herpes zoster it ranges from 9 to 14%. Some authors state that about 50% of herpes zoster patients older than 60 years of age and almost 75% of those older than 70 years of age will suffer from post-herpetic

neuralgia. It ranges from 500 000 do 1 million cases in the U.S.A. and about 200 000 in the United Kingdom³. Although sex and race have been shown to have no impact on the duration of pain, longer duration of painful episodes has been noticed in female patients². The therapy of herpes zoster should commence as soon as possible, i.e. preferably immediately upon the occurrence of rash. Basic therapeutic rationale is that by controlling acute pain the risk of chronic pain is diminished and that the intensity of therapeutic procedures should be proportionate to the intensity of pain experienced by the patient. The use of antiviral therapy has proved to reduce rash and shorten the duration of acute pain. Three drugs are listed in reference literature as the most commonly used ones, namely the acyclovir, famciclovir and valacyclovir; the two latter ones have proved the most efficient and most appropriate in terms of consumption regimen⁵. Some authors point out the efficacy of pregabalin in the therapy of herpes zoster, as great doses of the drug alleviate acute neuropathy⁶. In addition to these drugs, non-pharmacological procedures also play an important role in the treatment of herpes zoster patients. Namely, extensive training of patients that would comprise clear explanation of basic principles of the disease, treatment plan, importance of antiviral therapy, the possibility of spreading the infection to individuals who have not had chickenpox⁵. Since herpes zoster is known for its painful experience, it is important to assess self-reporting of pain experience; hence the aim of our study was to find out the types of pain occurring in herpes zoster infection.

Materials and Methods

The study subjects were 46 patients diagnosed with herpes zoster and were selected out of 493 patients treated at the Pain Therapy Clinic, the outpatient facility of Clinic for Traumatology in Zagreb in 2010. There were 14 women (63.6%) and 8 men (36.4%), aged from 29 to 95 years (the average – 72 years).

The following measures were used in the assessment of pain: SF McGill Pain Questionnaire and Visual Analogue Scale. The Short Form McGill Pain Questionnaire (SF-MPQ) was used to assess specific characteristics of PHN⁷. It is based on two-factor model of pain, which distinguishes pain perception as sensory or affective. The inventory consists of 15 items; 11 items assessing sensory pain and 4 items assessing affective pain. Each item consists of a word or phrase depicting the pain experience with answer ranging from »0«, denoting »absence of particular pain«, to »3«, denoting »severe pain«. A separate item measures the overall intensity of pain and ranges from »0« to »5«. Internal consistency of the scale varied from 0.705 to 0.82, depending on the sample^{8,16}, although most of the studies do not measure Cronbach α when using this specific inventory⁹.

Visual analogue scale (VAS) is a simple and frequently used method for the assessment of variations in the intensity of pain. A patient is asked to indicate his/her perceived pain intensity along a 100 mm horizontal line, and

the rating is then measured from the left edge. The VAS score correlates well with acute pain levels, although it has an error of about 20 mm¹⁰.

Satisfaction with life and health, enjoying life and self-reported inability to perform the activities of daily living as a result of pain are shown as a subjective self-assessment measure of pain in the Likert type scale from 1 to 5.

Analgesic treatment and demographic and clinical characteristics of patients were also taken into consideration.

Data were collected individually, in the institution, as part of a greater study of pain syndromes. The study received approval from ethical committee. All participants have signed informed consent and no fee was paid them; they could leave the research at their own will at any time without any consequences.

The results were statistically analyzed by Statistica 7 software package. Statistical significance level was set at 95% (alpha = 95%), and the p value less than 0.05 was considered as statistically significant.

Results and Discussion

Descriptive statistics for the measures of pain intensity and quality are presented in Chart 1. The Short-Form McGill Pain Questionnaire assesses 15 specific sensory and affective pain descriptors and provides a total score as well as sensory and affective subscale scores.

Figure 1 shows that the most commonly reported pain sensations were the following: throbbing (M=1.93), painful (M=1.8), burning (M=1.66) and sharp (M=1.66). The most rarely reported pain sensations were the punishing (M=0.33) and splitting, or cracking pain (M=0.33). The obtained results are in accordance with those reported in reference literature, particularly in view of the fact that the most common symptoms of herpes zoster include the sensations of burning, pricking, itching and throbbing. Some studies have also shown that more than 70% of patients most often report about the following painful sensations: burning, painful, piercing, throbbing, sharp and exhausting^{11,12}. Bethany & Weaver

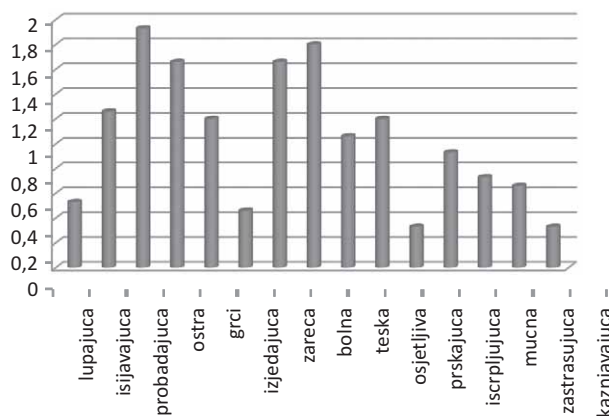


Fig. 1. Distribution of average results for the types of pain (Melzack-McGill questionnaire, Likert scale 0–3).

TABLE 1
DECREASE OF PAIN INTENSITY IN VAS FOLLOWING
SIX-MONTH TREATMENT

PAIN	VAS	Before therapy		After therapy	
		N	%	N	%
Weak	0–3	0	0	18	39.1
Moderate	4–6	10	21.7	28	60.9
Severe	7–10	36	78.2	0	0

(2007) in their review paper report about burning, piercing and painful as the most frequently described types of pain in herpes zoster accompanied by severe itching at sites of vesicular eruptions¹⁵.

The studies carries out so far show that the pain in herpes zoster patients is most of the time described as being of mild intensity, although significant variations have been reported in this respect^{12,13}. Our study results have shown that the intensity of pain ranges from *mild to severe* in the majority of cases. It has also been noted that the symptoms subside more rapidly in patients who do not feel any or just mild pain, i.e. that the intensity of pain indicates higher risk of prolonged painful sensations¹.

All study subjects received pharmacological treatment, and the choice of specific agent depended on the intensity of pain. The patients reporting up to 4 on VAS, i.e. mild to moderate pain, received non-opioid drugs, the NSAR and ASK. When pain assessment ranged from 4 to 6 on VAS, i.e. moderate pain, the patients received tramadol, while for severe pain opiate drugs were administered (VAS range from 6 to 10). As analgesic drugs need to be gradually leveled to reach proper therapeutic dose, the average therapeutic dose was about 1800 mg. After six months of drug therapy the VAS results showed significant diminishing of pain intensity.

The analysis of descriptive data about the duration of pain has shown that the most common reason for the development of chronic pain in patients with post-herpetic neuralgia lies in inadequate treatment of pain occurring in herpes zoster. In our study in as many as 80% of patients chronic pain developed as a result of their not seeking medical attention before 3 to six months following initial symptoms and subsiding of skin fluorescences.

As for other pain control procedures, it may be seen that besides pharmacotherapy, physical therapy and acu-

puncture have been used most often and have yielded satisfactory results. All study participants were administered pharmacotherapy, while 68% of them used physical therapy and 34% of patients used acupuncture as alternative ways of pain alleviation. It has further been shown that the patients on combined therapy, including acupuncture, have on the average used smaller doses of drugs in their treatment of herpes zoster pain ($t=2.745$; $p<0.05$). The finding is in accordance with previous reports according to which about 30% of individuals positively react to acupuncture and are prone to positive placebo effects^{17–20}.

As shown in Table 2, self-assessment of satisfaction with life quality in patients with herpes zoster is moderate ($M=3.08$), while self-assessment of the need for medical therapy is high ($M=3.15$), and so is the assessment concerning difficulties in performing the activities of daily living resulting from pain ($M=3.8$). As regards the essential psychological variables of satisfaction with one's own life and enjoyment in life, their average results ($M=2.46$) show that the study subjects are not satisfied with their health, but very much enjoy in their lives ($M=2.6$).

Katz et al. (2004) have found that the HZ patients more often exhibit the symptoms of depression and anxiety than do non-HZ patients¹². The authors also state that 30% of their patients report that pain interferes with their everyday physical and social functioning. The correlation between sensory and affective types of pain and life quality with regard to health, Katz has found out that sensory pain contributes to diminished physical functioning of the patients, whereas affective types of pain interfere with their social functioning and aggravates their mental states. In our study the most frequently reported affective type of pain is that described as exhausting pain ($M=0.93$). However, the overall average result in the scale of affective pain is not high ($M=2.66$, $SD=3.24$), while the results on sensory scale are much higher ($M=13.1$, $SD=5.23$). This could lead to a conclusion that the patients are more focused toward sensory pain and physical limitations caused by it²³.

The intensity of pain has also been found to significantly affect the quality of life, especially so in patients suffering from chronic and severe pain^{12,21}. The quality of life can be seriously deteriorated in patients with herpes zoster diagnosis since the symptoms of the disease affect many aspects of daily living. Besides pain, the pa-

TABLE 2
RESULTS OBTAINED FOR THE FOLLOWING SCALES: SATISFACTION WITH LIFE, ENJOYING LIFE, ASSESSMENT OF INABILITY TO PERFORM THE ACTIVITIES OF DAILY LIVING BECAUSE OF PAIN; N=46.

	M	SD	Min-Max
How would you assess the quality of your life?	3.08	0.76	1–5
How satisfied are you with your health?	2.46	1.12	1–5
How much does your pain prevent you from doing your daily activities?	3.8	0.8	1–5
How much medical treatment do you need in your life?	3.15	0.8v	1–5
Are you enjoying in your life?	2.6	0.96	1–5

tients can experience other physical problems interfering with their everyday functioning, e.g. at work, leisure activities, family life^{14,22,23}.

Conclusion

Comprehensive assessments of pain are necessary for clinical research on the epidemiology, natural history, pathophysiological mechanisms, treatment and preven-

tion of pain in herpes zoster and PHN. Comprehensive assessment emphasizes the importance of interdisciplinary approach to the diagnosis and treatment of herpes zoster pain, combining the pharmacological and psychological approaches in pain reduction. The future studies should include investigation of psychological components of pain and carry out evaluation of pain therapy taking into consideration the quality, intensity, location and duration of pain together with its influence on the patient's life quality.

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KVALITETA BOLI KOD PACIJENATA OBOLJELIH OD HERPES ZOSTERA

SAŽETAK

Tipičnom kliničkom slikom Herpes zoster dominiraju jaki bolovi koji uglavnom traju i nakon povlačenja osipa. Istraživanja pokazuju da se kod pacijenata sa ovom dijagnozom mogu pojaviti različite vrste boli koje variraju u svojoj pojavnosti, intenzitetu, kvalitetu, lokaciji i trajanju, stoga je jako važno analizirati sve pobrojane komponente. Cilj istraživanja je bio procijeniti navedene komponente boli kod pacijenata oboljelih od herpes zoster. Sudionici su bili 46 pacijenata sa dijagnozom herpes zoster koji su liječeni u Ambulanti za bol Klinike za traumatologiju, Zagreb u 2010. godini. Korištene mjere za procjenu boli i njenog utjecaja na neke psihosocijalne aspekte života su: *SF McGill Pain Questionnaire*, *VAS* (vizualna analogna skala), *Samoprocjena zadovoljstva životom, zdravljem i uživanja u životu*. Također su kontrolirane sociodemografske varijable, kliničke karakteristike pacijenata te broj i vrsta analgetika korištenih u tretmanu. Rezultati pokazuju da pacijenti najčešće opisuju bol kod herpes zoster po intenzitetu kao jaku i u slijedećim kvalitetama: probadajuću, bolnu, žareću i oštru. Rezultati također ukazuju na velik utjecaj boli na dnevne aktivnosti pacijenata, zadovoljstva životom, zdravljem i uživanja u životu. Dobiveni rezultati upućuju na važnost opsežne evaluacije boli kod herpes zoster i njenom koristi kod budućih kliničkih istraživanja i prevencije ovog bolnog sindroma.