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Clinical and psychosocial correlates of acute pain in herpes zoster

Antonio Volpi [a,*], Antonio Gatti [c], Giuseppe Serafini [c], Bruno Costa [d], Barbara Suligoi [e], Francesca Pica [b], Luigi T. Marsella [a], Elisabetta Sabato [c], Alessandro F. Sabato [c]

[a] *Department of Public Health, University of Rome "Tor Vergata", Italy*
[b] *Department of Experimental Medicine, University of Rome "Tor Vergata", Italy*
[c] *Department of Surgery, University of Rome "Tor Vergata", Italy*
[d] *GSK, Italy*
[e] *Istituto Superiore di Sanità, Italy*

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Abstract

Background: Acute and persistent pain are the most significant clinical manifestations of herpes zoster (HZ), but the characteristics of acute pain in HZ patients have been inadequately investigated.
Objectives: To correlate the severity of acute pain with clinical, demographic and psychosocial characteristics of HZ patients.
Study design: Five hundred thirty-three patients with acute HZ were recruited by 119 dermatologists who collected medical and demographic data at diagnosis, provided counselling and therapy where appropriate and asked the patients to complete the Short Italian Questionnaire designed for comprehensive evaluation of HZ patients.
Results: In a univariate analysis, greater acute pain severity was significantly associated with female gender, number of dermatomes affected, presence of prodromal pain, abnormal sensations (dysesthesia), education level, anxiety and depression. Quality of life, even if greatly reduced, did not correlate with the intensity of pain. In a multivariate model, the intensity of pain was independently associated with the extent of rash ($p = 0.042$), presence of prodromal pain ($p = 0.005$), dysesthesia, education level ($p = 0.040$), and depression ($p < 0.001$), but not with gender, anxiety or quality of life.
Conclusions: This study suggests that in patients with acute HZ the severity of the disease and depression at presentation are the main correlates of pain intensity.

Keywords: Herpes zoster; Shingles; Acute pain; Depression

1. Introduction

Herpes zoster ([HZ]; 'shingles') results from the reactivation of latent varicella zoster virus (VZV) from the dorsal root and some cranial nerve ganglia. Although HZ is not a reportable disease, 200,000–250,000 cases are estimated to occur annually in Italy (di Luzio Paparatti et al., 1999). In immunocompetent persons, the most notable manifestations of shingles are rash, acute neuralgia (pain occurring within 30 days of disease onset) and persistent pain, termed postherpetic neuralgia (PHN). Social, psychological, and environmental factors can influence a patient's perception of pain and their ability to cope with pain and discomfort (Johnson, 2002). All of these factors should be addressed in order to provide optimal care.

The effects of PHN on physical and emotional functioning have been examined in several studies and it has been established that, other than older age, the best supported risk factor for developing PHN is the severity of acute pain accompanying HZ (Schmader et al., 1990; Dworkin et al., 1992; Dworkin and Portenoy, 1996; Whitley et al., 1999; Dworkin

Abbreviations: HZ, herpes zoster; PHN, postherpetic neuralgia; VZV, virus varicella zoster

* Corresponding author at: Malattie Infettive, Dipartimento di Sanità Pubblica, Università di Roma "Tor Vergata", Via Montpellier 1, 00133 Roma, Italy. Tel.: +39 06 7259 6876; fax: +:39 06 7259 6873.
E-mail address: volpi@med.uniroma2.it (A. Volpi).

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and Schmader, 2001; Nagasako et al., 2002; Thyregod et al., 2004). However, acute pain in HZ patients has been less well investigated (Tyring et al., 1995; Dworkin et al., 2001; Chidiac et al., 2001; Katz et al., 2004). The present study examines the demographic, clinical and psychosocial correlates of pain that were present in a large sample of patients when first seen with HZ.

2. Materials and methods

2.1. Patients

Five hundred and thirty-three patients with a clinical diagnosis of acute HZ were recruited by 119 dermatologists in private practices nationwide from April to October 2001. At diagnosis, patients were asked to participate in a study of HZ and to complete a short questionnaire. Informed consent was obtained from all the patients who accepted. The dermatologists also collected medical and demographic data and provided counselling and therapy where appropriate.

2.2. Data collection

Each patient completed the Short Italian Questionnaire at the physician's office. This previously validated questionnaire was designed to evaluate the intensity of pain, psychological profile and quality of life (Serafini et al., 2003). It elicits information about anxiety or depression and the perceptions that an individual has about their pain and quality of life (worst pain over last week, physical and social functioning, vitality, physical and emotional role, psychological distress and well-being). Each item was scored between 0 (negative) and 10 (maximum). At the visit the physician collected the following information from the patient: demographic data, medical history, history of present disease, distribution of manifestations, clinical expression of disease and treatments.

2.3. Statistical analysis

Statistical analyses and data processing were performed using SAS software—version 8.2 for Windows™. All two-sided statistical tests were performed with a 5% significance level.

Quantitative variables were analyzed by descriptive statistics including mean values, standard deviation, median, minimum and maximum. Clinical and demographic characteristics were analyzed as categorical variables, whereas intensity of pain, anxiety, depression and quality of life were analyzed as continuous variables. Pearson's correlation coefficient was used to investigate the relationship between pain intensity and the other variables. Multivariate analysis of variance (MANOVA) was used to analyze pain intensity in relation to gender, age, education level, rash extension, abnormal sensations (such as pruritus, tingling, and allodynia), prodromal pain, anxiety, depression and quality of life.

3. Results

Five hundred thirty-three subjects were enrolled in the study within 6 months. They were all Caucasian Italians and were evenly distributed from various areas of the Country. Demographic and clinical characteristics of the patients are summarized in Table 1. The median age was 58 years (range

Table 1
Demographic and clinical characteristics of the 533 patients with acute HZ

	Number (%)
Total	533 (100)
Gender	
Male	237 (44.5)
Female	296 (55.5)
Age (years)	
<50	190 (36)
50–60	109 (20)
>60	234 (44)
Years of education	
Elementary	178 (33)
Secondary	118 (22)
High school/university degree	237 (55)
Geographic area	
North	199 (37)
Center	117 (22)
South	156 (29)
Islands	61 (12)
Onset of pain (time to observation) (range: 1–30 days)	
<3 days	247 (46.3)
3–7 days	212 (39.8)
>7 days	74 (14.9)
Onset of rash (time to observation) (range: 1–30 days)	
<3 days	294 (55.2)
3–7 days	190 (35.6)
>7 days	49 (9.2)
Prodromal pain	435 (81.6)
Duration of prodromal pain before rash (days) (range: 1–>3 days)	
1	71 (16.4)
2–3	224 (51.3)
>3	140 (32.2)
Localization of rash	
Cranial (including ocular)	101 (19)
Cervical	62 (11.6)
Thoracic	271 (50.8)
Lumbar	88 (16.5)
Extent of rash (dermatomes)	
1	355 (66.6)
2	145 (27.2)
>2	18 (3.4)
Abnormal sensations (including itch, tingle and allodinia)	162 (30.4)
Motor paralysis	12 (2.3)
Fever (>37.5 °C)	63 (12.1)