

Evaluation of Chronic Wound Pain: Results of A Study of 274 Consecutively Observed Patients at Our Wound Care Center

Rolando Tasinato¹, Giampiero Avruscio^{2*}, Max Dei Negri¹, Gaia Degli Angeli¹, Corrado Da Lio¹ and Ragazzo Sonia¹

¹General and Vascular Surgical Department, ASL 3 Mirano's General Hospital Venice, Italy

²Medical Angiology Unit of the University Hospital of Padua, Italy

***Corresponding author:** Giampiero Avruscio, Medical Angiology Unit of the University Hospital of Padua, Italy

ARTICLE INFO

Received: 📅 October 22, 2024

Published: 📅 November 04, 2024

Citation: Rolando Tasinato, Giampiero Avruscio, Max Dei Negri, Gaia Degli Angeli, Corrado Da Lio and Ragazzo Sonia. Evaluation of Chronic Wound Pain: Results of A Study of 274 Consecutively Observed Patients at Our Wound Care Center. Biomed J Sci & Tech Res 59(2)-2024. BJSTR.MS.ID.009279.

ABSTRACT

Chronic wound pain is a relevant issue, influencing the patient's quality of life and impacting on both the patient and caregiver's physical, emotional and cognitive functions. Analysis on data found in literature highlights that pain is found in 32.7-68.5% of patients with chronic ulcers of the lower limbs, such percentage varying from 20% for pressure ulcers up to 91% for ischemic ulcers. Pain control often requires continuous analgesic therapy, which exposes the patient to a higher risk for collateral effects, similarly to what happens with NSAIDs abuse. More than 60% of patients present relevant pain. This article resumes our experience deriving from an analysis of 274 patients consecutively observed at our Wound Care Center from January 2021 to March 2023. All patients were evaluated periodically in regards with their pain using the 11-point Numeric Rating Scale (NRS). In the end, 16.2% of patients did not present any pain, 16.6% of patients presented mild pain (NRS score of 2-4), 56.5% presented moderate-to-severe pain (NRS score of 4-8) and 10.7% presented severe pain (NRS score of 9-10). The authors concluded that the data obtained from the study highlight how extremely important it is to offer adequate analgesic therapy to patients suffering from chronic lesions: pain is a symptom which should never be underestimated and must necessarily be treated to avoid evolving from a symptom into an actual disease.

Keywords: Pain; Chronic Wounds; Pain Measurement

Introduction

Pain is frequently found in patients with hard-to-heal or non-healing wounds [1,2]. Analysis of epidemiologic data derived from a group of patients who presented at our wound care center during a 15-month period points out that 46.3% of patients showed complete healing of the lesion within 12 weeks since the start of the therapy, 42.1% healed in 4 to 12 months, while 11.6% of them needed more than 18 months to heal or still had not healed after 18 months. Besides issues related to the management of the ulcer, most of these patients also showed a certain degree of pain. Data found in literature highlight that pain as a symptom is found in 32.7% to 68.5% of patients with chronic ulcers of the legs, varying from 20% for pressure ulcers up to beyond 91% for ischemic ulcers [3-5]. Pain control often

requires continuous analgesic therapy with NSAIDs, weak opioids and sometimes slow-release strong opioids (SRSO). Analgesic therapy, though, exposes patients to the risk for side effects if not adequately carried-out and even more so when carried-out for an extended period of time [6,7].

In particular, the most reported side effects were gastrointestinal and cardiotoxic side effects and bleeding, related to the use of NSAIDs. More than 60% of patients present heavy pain and pain is the symptom that most restricts and interferes with daily activities [8-10]. Pain related to the wound or inevitably caused by health care professionals during medical procedures negatively impacts the quality of life of the patients, affecting mostly one's psychological health, leading to depression, anxiety and reduced socialization, often making these

patients still or incapable of carrying out daily activities [11,12]. Wound-related pain is a somatic kind of pain. It is complex and multifactorial, characterized by both acute and chronic phases. Pain associated with skin lesions is a clinically relevant symptom, that needs to be objectified in patients as it is a warning sign for interruption or significant slowing down of the wounds healing process. Increased pain may signal the presence of an infection, shortage of blood supply to the lesion, a weak immune response or irritation of the lesion or perilesional tissues. When a wound does not heal, pain becomes persistent, gaining nociceptive and neuropathic characteristics, therefore becoming chronic and affecting both physical and mental health and the quality of sleep of the patient.

If wound pain is not adequately treated during this phase, it becomes persistent and accompanied by reduced motility, insomnia and depression, which in turn can lead to aggressive behavior, self-harm and even suicidal ideations in some cases [13]. Health care assistants often fail to give pain enough priority, deciding to focus mainly on healing processes instead. Reduced motility has a negative impact on blood flow to the limbs and on the duration of the wound-healing process, thus contributing to obstacle tissue oxygenation and supply of nutritious substances to the tissue, which would favor the healing of the wounds. In patients affected by vascular chronic wounds, pain is of a somatic and nociceptive kind and is caused by the stimulation of intra- and perilesional peripheral nociceptors. Nociception is medi-

ated by cellular inflammatory receptors and is amplified by the presence of inflammation and ischemia of the tissues [14,15]. Continuous stimulation of the receptors leads to sensitization of neurons in the posterior horns of the spinal cord, with consequent impaired tactile discrimination, augmented sensitivity and amplification of the pain stimulus resulting in hyperalgesia in the painful area.

Materials and Methods

From January 2021 to March 2023, 274 patients with skin wounds were evaluated at the Wound Care Center of Mirano's Hospital (Venice). The patients comprised 131 men and 143 women, whose mean age was 67.3 years (in a 24-92 years range), who came to 2nd-level wound care observation. Figure 1 resumes the etiopathogenetic characteristics of the lesions observed in 274 patients, divided by type and relative percentages. To evaluate the presence of pain and measure its intensity, patients underwent evaluation with the 11-point NRS. At each daily evaluation the patient reported the NRS score on a sheet which was then transcribed into the electronic medical record for data analysis. The data were archived on an Excel file and analyzed by an independent statistical observer using the IBM SPSS Software. Figure 2 shows the Numerical Rate Scale, adopted to measure the intensity of the pain perceived by the patients at the time of measurement. Every patient was invited to measure the intensity of the pain perceived at least once a day, during the whole length of their care.

Etiopathogenesis of the lesion	Number of patients	%
Venous (phlebostatic) ulcers	72	26,3
“Mixed” ulcers	106	38,8
Ischemic (arterial) ulcers	36	13,1
Diabetic foot	31	11,3
Burn	7	2,5
Unclassified lesion	9	3,2

Figure 1: Etiopathogenetic characteristics of the lesions observed in 274 patients.

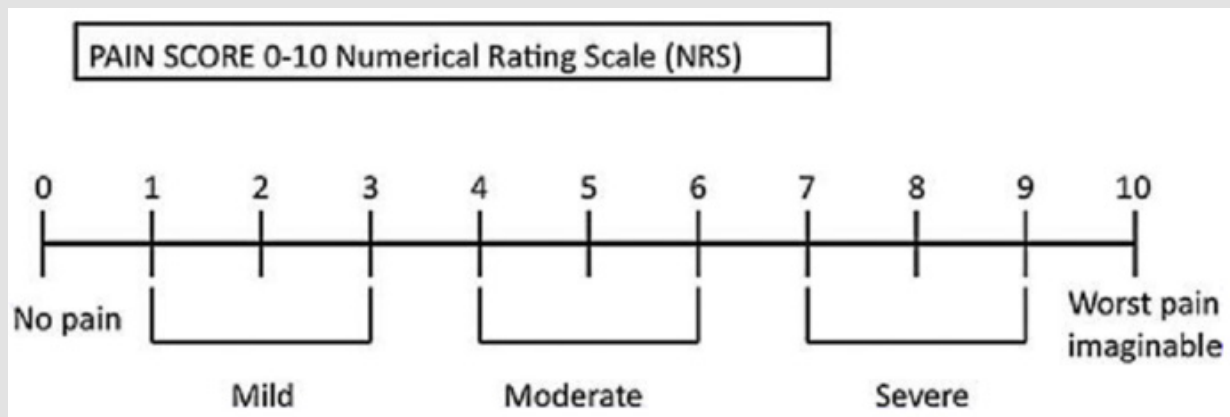


Figure 2: The figure shows the Numerical Rate Scale adopted to measure the intensity of the pain.

The results were then recorded on a database to undergo cataloguing and statistical evaluation. The analysis initially comprised 295 patients but during the course of the study data collection resulted inadequate in 21 cases which were therefore excluded from the study. In 274 cases data collection was successful and compliant with the design of the study. Based on the intensity of the pain registered, patients were then treated following WHO's guidelines on chronic non-malignant pain. This guideline provides recommendations based on current evidence for best practice in the assessment and management of adults with chronic non-malignant pain in non-specialist settings.

Results

Analysis of the data reported in Figure 3 highlights that only 16.2% of the examined subjects in the observed group did not present any pain, having an NRS between 0 and 1, while 16.6% of patients reported mild pain, their NRS being between 2 and 3. However, the most numerous group of individuals, comprising 56.5% of patients, report-

ed moderate-to-intense pain related to the presence of skin ulcers, and in 10.7% of cases pain was by them described as very intense. Overall, in our case more than 85% of patients reported pain related to chronic wounds. Every patient was suggested the use of analgesics to alleviate pain, following WHO's guidelines on analgesic therapy. In case of light to moderate pain, patients were given Paracetamol, by itself or in association with weak opioids such as low-dose Codeine or Tramadol – in case of moderate pain, other NSAIDs such as Ibuprofen were also used. In case of severe or very intense pain, patients were given opioids administered orally, such as extended-release Oxycodone; in some cases, they were given transdermal Fentanyl patches or Morphine subcutaneous injections. Analysis of pain distribution during skin wounds healing processes highlighted that in many cases patients require their therapy to be adjusted according to the clinical course of the disease. Figure 4 During the first phases, when inflammation and bacteria contamination are predominant, stronger analgesic therapy is often required, while progressing towards complete healing, the need to use analgesics gradually reduces and in some cases their use is even completely suspended.

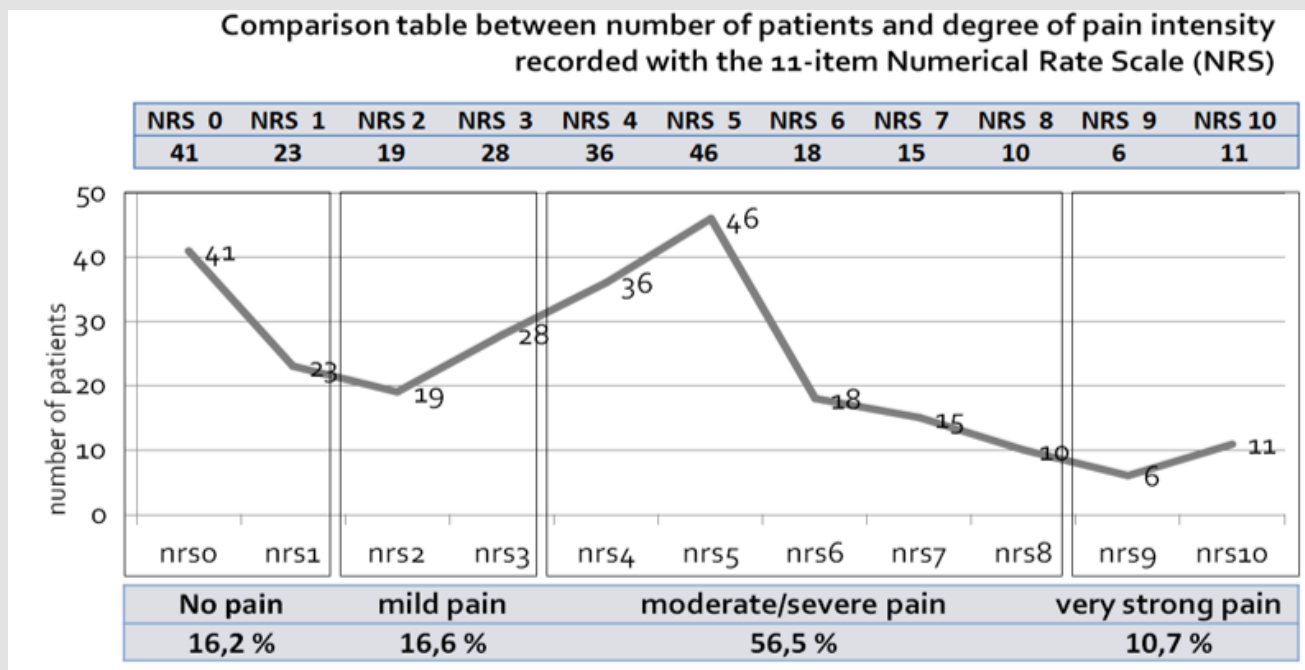


Figure 3: Comparison table between the number of patients and the intensity of pain recorded with the 11-point NRS.



Figure 4: Patient presenting skin ulcers of mixed arterial and venous origin. Doppler ultrasound images show chronic venous insufficiency and obstructive arteriopathy of the legs. Pain was referred to rate 6 to 7 points according to the NRS.

Analgesic therapy was associated with improved quality of life for many patients: patients whose pain was treated adequately then revealed to be more active and compliant to other therapies, such as the use of elastic bandages, medication of their lesions and introduction of lifestyle changes (e.g. weight loss, diet control and increased physical activity), proposed to facilitate the healing of the wounds [16].

Side effects were registered in some cases, including constipation, sleepiness, itchiness and allergic skin reactions related to the use of Codeine or Fentanyl. Such side effects were not particularly severe and disappeared right after the drug was suspended and substituted by other analgesics.

Conclusion

Wound-associated pain is frequently found in patients presenting at wound care centers. 85.2% of these patients present with pain and need effective and personalized analgesic therapy according to intensity and duration of the pain. Analgesic therapy improves the patients' quality of life and makes them more compliant to other kinds of therapy that may be needed to heal their lesions, such as elastic bandages, frequent medications, lifestyle changes and increased physical activity and deambulation. Adequate pain control improves one's compliance to treatment and shortens wound healing time [17-21].

References

- Shah P, Aung TH, Ferguson R, Ortega G, Shah J, et al. (2016) Ethical Consideration in Wound Treatment of the Elderly Patient. *J Am Coll Clin Wound Spec* 6(3): 46-52.
- Woo KY, Abbott LK, Librach L (2013) Evidence-based approach to manage persistent wound-related pain. *Curr Opin Support Palliat Care* 7(1): 86-94.
- Woo KY, Sibbald RG (2008) Chronic wound pain: a conceptual model. *Adv Skin Wound Care* 21(4): 175-188.
- Goodwin R (2010) Wound-related pain management. *Nurs Stand* 24(49): 59-60.
- Frescos N (2018) Assessment of pain in chronic wounds: A survey of Australian health care practitioners. *Int Wound J* 15(6): 943-949.
- Bowers K, Barrett S (2009) Wound-related pain: features, assessment and treatment. *Nurs Stand* 24(10): 47-56.
- Woo K, Sibbald G, Fogh K, Glynn C, Osterbrink J, et al. (2008) Assessment and management of persistent (chronic) and total wound pain. *Int Wound J* 5(2): 205-215.
- Dhar A, Needham J, Gibb M, Coyne E (2020) The outcomes and experience of people receiving community-based nurse-led wound care: A systematic review. *J Clin Nurs* 29(15-16): 2820-2833.
- Nilsson S, Renning AC (2012) Pain management during wound dressing in children. *Nurs Stand* 26(32): 50-55.
- Kohr R, Gibson M (2008) Doing the right thing: using hermeneutic phenomenology to understand management of wound pain. *Ostomy Wound Manage* 54(4): 52-60.
- Young T (2007) Assessment of wound pain: overview and a new initiative. *Br J Community Nurs* 12(12 Suppl): 5-8.
- Newbern S (2018) Identifying Pain and Effects on Quality of Life from Chronic Wounds Secondary to Lower-Extremity Vascular Disease: An Integrative Review. *Adv Skin Wound Care* 31(3): 102-108.
- Solowiej K, Mason V, Upton D J (2010) Psychological stress and pain in wound care, part 3: management. *Wound Care* 19(4): 153-155.
- Scheffler M, Koranyi S, Meissner W, Strauß B, Rosendahl J, et al. (2018) Efficacy of non-pharmacological interventions for procedural pain relief in adults undergoing burn wound care: A systematic review and meta-analysis of randomized controlled trials. *Burns* 44(7): 1709-1720.
- Romanelli M, Dini V, Polignano R, Bonadeo P, Maggio G J, et al. (2009) Ibuprofen slow-release foam dressing reduces wound pain in painful exuding wounds: preliminary findings from an international real-life study. *Dermatol Treat* 20(1): 19-26.
- Richardson C (2012) An introduction to the biopsychosocial complexities of managing wound pain. *J Wound Care* 21(6): 267-268.
- Coulling S (2007) Fundamentals of pain management in wound care. *Br J Nurs* 16(11): S4-S6.
- Pergolizzi J, Böger RH, Budd K, Dahan A, Erdine S, et al. (2008) Opioids and the management of chronic severe pain in the elderly: consensus statement of an International Expert Panel with focus on the six clinically most often used World Health Organization Step III opioids (buprenorphine, fentanyl, hydromorphone, methadone, morphine, oxycodone). *Pain Pract* 8(4): 287-313.
- Price P, Fogh K, Glynn C, Krasner DL, Osterbrink J, et al. (2007) Managing painful chronic wounds: the Wound Pain Management Model. *Int Wound J Suppl* 1(Suppl 1): 4-15.
- Fang Y, Wang N, Shi L, Barker T, Zhang P, et al. (2019) Pain relief during wound care for patients with a deep open wound in an orthopedic trauma department: a best practice implementation project. *JBI Database System Rev Implement Rep* 17(12): 2559-2569.
- Lloyd Jones M, Greenwood M, Bielby A (2010) Living with wound-associated pain: impact on the patient and what clinicians really think. *J Wound Care* 19(8): 340-345.

ISSN: 2574-1241

DOI: 10.26717/BJSTR.2024.59.009279

Giampiero Avruscio. Biomed J Sci & Tech Res



This work is licensed under Creative Commons Attribution 4.0 License

Submission Link: <https://biomedres.us/submit-manuscript.php>



Assets of Publishing with us

- Global archiving of articles
- Immediate, unrestricted online access
- Rigorous Peer Review Process
- Authors Retain Copyrights
- Unique DOI for all articles

<https://biomedres.us/>