PAIN RESPONSE AND PAIN CONTROL IN BURN PATIENTS


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SUMMARY. Burn injury is totally correlated to pain, which depends on burn depth and extent, cause, age and the patient’s general condition, and on the local therapy of the burn wound. In hospitalized patients adjectival and numerical scales have been used to measure pain. The management of pain is challenging to the therapist and extremely important for the patient.

Introduction

The first reaction one has to the words “burn injury” is pain. Whether the injury is a simple sunburn or an extensive second- or third-degree burn covering a large portion of the body, the mere thought of this type of injury causes one to cringe and think of pain.

But what actually is pain? Pain is the unpleasant sentimental experience that is related to real or potential damage to tissues or is described in the terms of such damage. The character of pain is objective. The feeling that a specific injury produces is different in each patient. And as McCoffery said, “pain is anything each individual considers that it is, according to his previous experiences.”

Types of pain

Pain can be distinguished as acute or chronic. Acute pain constitutes a warning or a protective mechanism in tissue damage and consequently is considered “useful” and expected. Chronic pain does not offer any known biological service - it is an independent and complex entity that seriously influences the quality of the patient’s life and is thus regarded as an illness. Furthermore, in proportion to the cause, pain can be the result of an acute or a chronic lesion.

Psychogenic pain is another category, and likewise we can perceive acute and chronic psychogenic pain. Acute pain can be related to:

- the psychiatric background
- the activation of stress mechanisms
- the pain sensitivity degree
- the psychokinetiс reflex protecting from further pain

Chronic pain can be related to:

- depression
- social adjustment

- factors predisposing patients to chronic pain

Referring to the pain caused by a burn, we have to focus on the characteristics of pain in relation to acute trauma. Acute pain is pain that:

- began recently
- has lasted at least three months
- has a linear stimulus-response relationship
- direct response to the treatment whether this is targeted to the real cause of pain or is purely symptomatic

Every acute lesion can cause pain and so injuries, burns, surgical operations, and illnesses with painful episodes can all give rise to some form of pain.

All burn injuries are painful. First-degree or very superficial partial-thickness burns may damage only the outer layers of the skin (the epidermis) but they cause mild pain and discomfort, especially when something such as clothing rubs against the burned area. Moderate to deep partial-thickness or second-degree burns result in variable amounts of pain depending on the amount of destruction of the dermis. Superficial dermal burns are initially the most painful. Even the slightest change in the air currents moving past the exposed superficial dermis causes a patient to experience excruciating pain. Without the protective covering of the epidermis, nerve endings are sensitized and exposed to stimulation. In addition, as the inflammatory response progresses, with the increase in swelling and the release of vasoactive substances, pain is bound to increase.

Areas of deeper partial-thickness burns may display a confusing pattern of pain over the first few days. These areas may show little or no response to sharp stimuli such as a pin prick; yet a patient may complain of deep aching pain related to the inflammatory response. These wounds are more similar to full-thickness burns in their pain response. In a full-thickness burn, the dermis, with its rich network of nerve endings, is completely destroyed. This
leads to the initial response of a completely anaesthetic wound when a sharp stimulus is present. Yet patients often complain of a dull or pressure type of pain in these areas. Once the devitalized tissue, i.e. eschar, sloughs and is replaced by granulation tissue, a patient again experiences the sensation of sharp pain when exposed to noxious stimuli.

Burn patients can be characterized as a special population. Burn injury is totally correlated to pain. Some factors can affect the degree and the course of the pain, and these can be divided into two categories, external factors and patient-related factors.

External factors. Pain depends on:
- the local therapy of the burn wound
- dressing changes
- the mattress or bed
- the patient’s position
- the healing of the burn area
- the surgical operations performed

Patient-related factors. Pain depends on:
- the burn itself (depth, extent, cause, the patient’s age)
- the patient’s general condition (diabetes mellitus reduces pain, neurological diseases increase it)

The pain expressed by a burn patient is extremely variable. The management of burn pain is challenging to the therapist and extremely important for the burn patient. The therapists always have to bear in mind the following:
1. Dressing changes and the first days post-surgery have been described as the worst pain.
2. Use analgesia whenever possible while changing dressings.
3. Burn unit staff should always try to minimize burn patient pain.

**Conclusion**

The management of burn pain is both challenging to the health care provider and extremely important for burn patients. Recent studies suggest pain be successfully managed both physiologically and psychologically. It is important to remember that pain management can significantly reduce the occurrence of psychological disorders such as post-traumatic stress syndrome.

“We must all die. But that I can save him from days of torture, which is what I feel as my great and ever new privilege. Pain is a more terrible lord of mankind than even death himself.” (Albert Schweitzer, *On the Edge of the Primeval Forest*, chapter 5)

**RÉSUMÉ.** Les lésions créées par les brûlures sont totalement corrélées avec la douleur, qui dépend de la profondeur de la brûlure et de son extension, de la cause, de l’âge et des conditions générales du patient, et de la thérapie locale des lésions. Pour les patients hospitalisés il y a des échelles comparatives adjectivales et numériques pour mesurer la douleur. La gestion de la douleur est stimulante pour le thérapeute et extrêmement importante pour le patient.

**BIBLIOGRAPHY**

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