



## MODIFYING FACTORS OF CHRONIC PAIN PERCEPTION IN ONCOLOGICAL PATIENTS

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**Abstract.** Cancer patients are vulnerable to depression and anxiety for many reasons: metabolic or endocrine alterations, treatments with debilitating chemotherapy regimens, immune response modifiers, and chronic pain associated with their physical illness. Quite apart from the normal emotional impact of the diagnosis of a life-threatening illness, an estimated 20% to 25% of cancer patients meet diagnostic criteria for major depression or anxiety, treatable psychiatric conditions that have serious detrimental effects on their quality of life.

**Key words:** refractory cancer pain, depression, anxiety

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### Introduction

Pain is always subjective and perceiving it is a matter of problems or influences connected to one or more potential causes of discomfort: pain, other physical symptoms, psychological issues, social difficulties, cultural factors, spiritual concerns [1].

Physical pain (due to cancer, treatment or an independent cause) can be modified by any of these factors which, finally, lead to clinical pain. They may have a positive or negative effect on the way we perceive pain, releasing it or worsening it. In practice, modifying factors generally increase pain, either by lowering the degree of pain or increasing sensitivity to it. However, some may generate an improving effect, enabling patients to feel lesser pain than the one proper to their medical condition. In certain circumstances, what patients report as pain is mostly correlated to psychological, social or spiritual problems. [2,3,4,5]

**Definition:** Clinical pain is what the patient feels and what needs to be treated, namely it represents an interaction between different causes of discomfort and pain perception, highlighting that the assessment of these issues is a clinical necessity, if one wishes to have an effective pain management.

**Modifying factors of pain perception:** severe or

progressive pain, multiple area pain, pain that limits one's activities or previous, insufficiently treated pain will aggravate the way patients feel it, whereas opposite situations will alleviate it [4,5,7]

**Other physical symptoms:** patients with sleep deprivation, distress or fatigue secondary to untreated pain will complain about a more severe pain than patients who do not suffer from these manifestations. Persistent cough, frequent vomiting or hiccups may worsen pain, especially in the bone area. The presence of any other disturbing symptom as dyspnoea, diarrhoea, incontinence or haemorrhage will intensify pain perception. [1,2,4-7]

### Psychological issues

Psychological problems are the most common factors that conduct to an increased pain perception. Possible causes of psychological suffering in patients with cancer may be related to their illness (rapidly progressive, short prognosis, untreated pain, unmanaged symptoms, disabilities, physical dependence, and prolonged disease turning into psychological breakdown); to the patient (fear of pain, death, disfiguration, loss or fear of losing one's a) control, independence, dignity; feelings of helplessness, lack of hope, short prognosis or fear of short prognosis, loss of self respect; loss of [or fear of losing] one's job, social status, family role; sensation of isolation [*de facto* or just a perception], unresolved issues- personal, interpersonal, financial, religious, care for the family, anxious personality, neurosis, hypochondria; problems con-

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nected to cultural differences, to social situations [pre-existent family issues, failure in receiving social support, financial difficulties]); related to treatment (late diagnosis, previous unsuccessful treatments, bureaucratic system) or to the care team (deficient communication, lack of information, lack of continuity in the care practices, exclusion of family or care givers, insensitive approach from a cultural perspective, spiritual and religious unspecified cares). [4,5,8-12]

Psychological suffering is often described in terms of anxiety and depression but in practice a large spectrum of psychological reactions and symptoms may occur, all of them being considered psychological conditions. Such reactions include fury, fear, despair, denial, guilt, sorrow, apathy and avoidance.

The evaluation of a patient in pain presupposes a mandatory assessment of his/her psychological problems whose complexity outlines the importance of a multidisciplinary team in his/her examination and planning of treatment.

Unidentified or untreated psychological sufferings will exacerbate pain while their absence or treatment will palliate it. Failure in identifying and treating psychological conditions is a frequent cause of untreated pain.

### **Social difficulties**

Patients with cancer do not experience social isolation; usually they have families and friends, as

relationships, causing an occurrence of social problems (Table I) which aggravate as the illness progresses. It's highly possible that social difficulties amplify pain hence their management may significantly release it [1,2,4,5,6-10].

### **Cultural factors**

Many cultures vary significantly in their attitudes on diseases, pain and death, but they vary between stoic acceptance, depression and severe anxiety. Groups have different views on their attitudes regarding the philosophy of palliative care and especially the free talk about diagnosis and prognostic. Lack of respect towards the patient's cultural environment or insensitive treatment towards the cultural environment may very well cause or intensify problems, including pain. Linguistic barriers that render difficult the communication on pain and treatment may also exacerbate pain [1,2,8,9,10-15].

### **Spiritual problems**

Any person, religious or not has a certain amount of spirituality which justifies her reasons and scope. Issues concerning spiritual worries are frequent in patients with cancer, especially in those with an advanced disease stage. Issues can be linked to the meaning and value of their life, to regrets or guilt about past events, feelings of anger or injustice and questions on suffering and mysteries of death.

Patients who target certain religious practices may undergo spiritual discomfort regarding their

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#### ***Personal social problems***

1. Feeling of abandonment
2. Boredom, mental isolation
3. Lack of (or low level of implication of) care givers, family
4. Lack of (or insufficient) social support; social isolation
5. Unsolved issues- emotional, interpersonal, financial, spiritual

#### ***Interpersonal relationships problems***

1. Due to the patient's reaction to his own illness: anxiety, depression, fear, fury, guilt, anticipative mourning
2. Due to the others' reaction to his illness: anxiety, depression, fear, fury, guilt, anticipative mourning, distress
3. Exacerbation of pre-existent interpersonal problems
4. Marital issues

#### ***Family problems***

1. Change of family roles; occurrence of new roles
2. Maladjustment
3. Ensuring a future proper care for dependent family members
4. Issues on self-care
5. Need for physical assistance, increased dependency
6. Need for assistance on every day life, house adjustments

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#### ***Financial and legal needs***

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Table I Social problems in patients with cancer

well as financial and social responsibilities. Cancer often has a devastating effect on these

religion. Persons who neglected any religious exercise may wish to reaffirm their belief. Religious

individuals who view their disease as a punishment or betrayal may go through difficulties in continuing their religious practices; simultaneously they may invest with unrealistic trust the power of their church or religion which impedes a proper pain management.

Spiritual problems have a profound impact on the way patients perceive pain but often they are overlooked or ignored. Major spiritual or religious problems are rare, but can generate severe pain, low responsive to analgesics.

**Psychological and psychosocial aspects of pain management**

Psychological, social, cultural and spiritual factors play an important part in the amplification or improvement of pain. Thus they must be included in the assessment of patients with pain who need a multidisciplinary approach.

**Psychological patients**

Psychological discomfort is usually described as pure anxiety or depression, but patients with cancer display a wide area of psychological reactions, indicators of a psychological distress fund. (Table II). However not all of them reflect a psychopathological condition, they are rather regarded as clinical manifestations or adjustment mechanisms.

ant techniques, and cognitive-behavioural therapy. They are non-invasive, less threatening for the patient and have no side effects; also they are therapeutically intensive, at least during the first phase of the treatment. All of them require active involvement from the patient and have the benefit to empower him. Therapies with a higher degree of complexity, including biofeedback, operational conditioning and cognitive-behavioural treatment, which are useful for patients with non-malignant chronic pain do not have a stated position in the pain management for patients with cancer [1,2,10-18].

**Relaxation**

There are clear signs that relaxation significantly contributes to pain management in cancer patients. In this context, a wide variety of complex and different techniques can be applied. Relaxation determines a state of general calm and helps treat increasing pain caused by anxiety or emotional stress and anxiety associated with pain amplification. Musculoskeletal pain generated by physical inactivity and by debility may equally be alleviated thanks to muscular relaxation techniques.

**Distraction**

The benefits of keeping a constant interest in arts, music and other hobbies are well known. Pain

Anxiety depression	Wailing
Fury, frustration, irritability	Anger, sadness, remorse
Lack of hope, despair	Seclusion, apathy
Feeling of helplessness	Passivity
Denial	Avoidance
Guilt	Improper compensation (joy)
Fear	Lack of cooperation with the care givers
	Unresponsive pain or physical symptoms

**Table II.** Clinical characteristics of psychological suffering

**Treatment**

Treating psychological disorders targets, mainly, to facilitate the patient's adaptation mechanisms, which can have a strong effect on the pain management and quality of life. Treatment must be tailored for each patient's needs and for many of them complete counselling, compassionate and empathetic represents the very foundation of the therapeutic route. Complete and proper information allow patients to face pain and illness, while support groups ensure emotional and social backup and can help to control pain.

**Psychological therapy of pain**

Lately, multiple psychological techniques to treat pain have been developed: general psychological support, complete availability of information, support groups, meditation, hypnosis, challenging the adaptation capacity, cognitive therapy, anxiolytics, antidepressants, psychotherapy, biofeedback, oper-

is harder to control if the patient is bored or feels isolated. **Hypnosis.** Hypnosis may come in hand when treating cancer specific pain and in some patients who experience pain in the phantom limb. For hypnosis to have the desired efficient effect it is necessary that the patient have a good hypnotic susceptibility, to want to be hypnotised and to trust the hypnotizer. Different hypnotic suggestions are used, including the hallucination of anaesthesia, sensory substitution, transfer of pain and dissociation.

**Cognitive therapy.** Knowing one's basic capacities of adaptation and applying directional therapy on the control of cognitive and emotional levels may help patients in pain.

**Psychotherapy.** Patients who present anxiety or depression can be helped by anxiolytic and antidepressant medication. Few patients will require formal psychotherapy that needs to be short length and oriented towards cognitive restructuring and adaptation abilities.

## Depression

Symptoms that help diagnose depression in healthy patients, from a physical perspective are: psychological and somatic (decrease in the basic affects, interests or lower pleasure for activities, agitation or psychomotor retard, lack of concentration or indecision, underestimation, guilt feelings, suicidal thoughts, significant changes in appetite or body weight, insomnia or hypersomnia, fatigue and/or lack of energy). In cancer patients, the importance of somatic symptoms is doubtful since they may be caused by the illness itself. Somatic symptoms can be considered substantial if they are more serious and present than the very disease. Other acknowledged criteria include persistent cry, persistent irritability, feelings of helplessness, perceiving the disease as a punishment, feelings of underestimation and viewing oneself as a burden [1,2,3,10-12].

Depression symptoms may occur as part of the normal response to a crisis and in the case of reactive depression they manifest themselves as part of a major affective illness or in relation with an organic cerebral syndrome.

### “Normal” depression

Episodes of depression and anxiety may occur as a normal reaction to stress, during the period of crisis, as when treatment fails. These reactions last for more than one-two weeks which allows the development of serious anxiety and depression symptoms. However, they dissolve spontaneously, in time and with the support of family, friends and the care team. Short treatment with hypnotics taken in the evening and anxiolytics in day time may be helpful in severe cases.

### Reactive depression

Reactive depression is an adaptation disorder that differs from the normal response to auto-limited stress, either in degree or in length. Symptoms are felt longer (over two weeks) or are more serious. Reactive depression is frequently connected to a certain degree of anxiety this meaning that the

patient can develop an obsessive preoccupation on symptoms.

### Major endogenous depression

Compared to reactive depression, symptoms are generally more severe and the affective mood is not consistent with the disease's prognostic and does not respond to support, cares or distraction. Delusional thoughts and hallucinations proper to psychotic depression are scarce, except for patients with organic cerebral syndrome.

### Organic cerebral syndrome

Patients with acute confusional state (delirium) or initial stage dementia may develop signs of depression. Examining a patient's mental state may highlight signs of major organic cerebral dysfunctions.

### Treatment

Depression treatment (Table III) in cancer patients depends on the time and seriousness of the symptoms and must be followed in the context of the initial diseases and prognostic. If an organic cerebral syndrome is present it should be properly taken care of. Patients with severe depression may benefit from psychotherapy and from antidepressants treatment.

Psychotherapy must be short (4-6 weeks), supportive and oriented towards clarification and problem settlement, directly connected to the patient's medical situation, treatment scopes and expectations and to his/her fears on suffering and death. Family members may also participate in this type of therapy. Methods of relaxation can be included in order to reduce anxiety.

Although their side effects are frequent and disturbing from a clinical perspective, antidepressants are useful for patients with severe depression, especially in elder or weakened ones. Tricyclic antidepressants cause different sedation degrees and anticholinergic and cardiovascular side effects. Monoamine oxidase inhibitors (MAOI) should be avoided in cancer patients due to the dietetic restrictions that they impose and to the frequent

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Diagnosis and treatment of organic cerebral syndrome, if it is found

Treatment of causal or aggravating factors: pain, other physical, social, cultural and spiritual symptoms.

General support, care and empathy: reassurance concerning cares and interest; complete information on the disease; assessment on the patient's degree of understanding and exploration of his/her fears on the disease and prognostic, encouragement, strengthening the system of family and social support

Supportive psychotherapy: clarification and solutions for problems related to the disease, treatment, future, adaptation, etc; group or family therapy, behavioural techniques

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Antidepressants

Other drugs: hypnotics, anxiolytics, neuroleptics

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**Table II.** Treatment of depression

interactions with other drugs. Mianserin is a moderate sedative, with lesser anticholinergic and cardiovascular side effects. Fluoxetine has a small degree of sedation but with many anticholinergic and cardiovascular side effects and can also lead to anxiety and insomnia or anorexia and weight loss.

### **Anxiety**

Anxiety is a normal and universal emotion. As with depression, detecting abnormal anxiety in patients with a physical affection is a challenge. Clinical signs and anxiety signs are numerous: unspecific fear, fear of "loosing one's mind", low attention and concentration capacity, palpitations, tachycardia, systolic hypertension, flushing, sweat, thoracic pain, dyspnoea, hyperventilation, dizziness, shakings, paraesthesia, weakness, exhaustion, anorexia, indigestion, diarrhoea, swallowing air, tension, agitation, irritability. Patients with cancer may have fears regarding their future, body dysfunctions, untreated pain or other symptoms or fear of death. Panic attacks may also occur, consisting of sudden and unpredictable fear attacks and physical discomfort for about 15-20 minutes [10,11,15-17].

#### **Normal anxiety**

Anxiety usually appears as a response to stress and crises linked to cancer and specific treatment. These episodes are appeared in time and with general care.

#### **Adaptation disorders- reactive anxiety**

Anxiety lasting more than expected (over 7-14 days) or exceeding the level considered normal and the degree of adaptation, can be classified as an adaptation disorder. Reactive anxiety follows a definite incident or stress and usually coexists with depressive symptoms.

#### **Organic anxiety syndrome**

In patients with cancer anxiety can be subsequent to medical problems: uncontrolled pain, hypoxia, dyspnoea, any severe or uncontrolled physical symptom and side effects to drugs: corticosteroids, Metoclopramide, bronchodilators, disruption of treatment with opioids, barbiturates, benzodiazepine, and alcohol.

#### **Anxiety disorders**

Generalized anxiety, panic attacks and different phobias can be kindled or aggravated by cancer or by its treatment. These patients present more serious symptoms which seem unfit or exaggerated in relation to the existent medical condition. General anxiety is characterised by chronic unrealistic concerns, doubled by an autonomous hyperactivity, anxiousness and hypervigilance.

### **Treatment**

Normal anxiety patients need only a proper, supportive care. The temporary use of hypnotic,

during night time and of an anxiolytic in daytime is recommended in cases where symptoms are severe. Short time supportive psychotherapy is usually beneficial. Behavioural techniques, including distraction, relaxation and stress control techniques may be helpful in some patients. If depression is part of the clinical panel, antidepressants may be recommended. Benzodiazepines are the most used drugs in the treatment of anxiety. Drugs with short or medium half-time (Alprazolam, Lorazepam, Oxazepam) are preferable to longer life span drugs, as is the case with Diazepam. Lorazepam has the advantage to be administered sublingual. Midazolam may be administered subcutan and can be included in the morphine subcutaneous infusion.

### **Psycho-social aspects**

Treatment takes many forms and involves different members of the care team and the social assistants' team. Interventions must be personalised in order to address the specific needs of the patients and their families. Supportive counselling is the very core of the treatment and it can be:

- Led on an individual basis for the patient or a member of his/her family,
- Family gatherings type or
- A discussion group with the participation of other patients and families.

The aim of the supportive counselling is to facilitate acceptance and implies listening, free expression of emotions, responsibility and updated information. Practical assistance, as everyday help, cooperation in order to accept small domestic changes and access to resources and community services will be highly beneficial. All efforts must be made so that professional and unprofessional support, available for families in need is maximised. Quite often, assistance may be necessary for the settlement of financial and legal aspects.

### **Conclusions**

- A proper treatment of pain will ease the future treatment of a future pain.
- Palliation of other physical symptoms will improve pain management.
- Unapproached social problems can lead to untreated pain.
- Culturally adequate treatment and removal of linguistic barriers may also alleviate pain.
- Spiritual or religious unidentified problems are sometimes the cause of untreated pain.
- Untreated or unidentified psychosocial issues can lead to intractable pain.
- Pain uncontrolled by an apparent adequate therapy requires tracking down psychosocial problems.
- Diagnosis and treatment of depression and anxiety will support pain management.

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