

IMPLICATIONS OF DEPRESSION IN PAIN DETERMINATION FOR OVERWEIGHT PATIENTS

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Abstract:

The present study discusses the highlighting of causality connections between depression and pain, especially for overweight patients. Pain has multiple origins with important psychosocial implications. There were included 240 patients divided in four groups, according to age and weight status. There was targeted the weight loss based on non-pharmaceutical means. For depression evaluation it was used the Hamilton scale, one of the most common instruments for its measuring. The statistic processing highlighted the following aspects: depression has direct implications in pain determination and is hard to evaluate for psychiatric and neurological patients.

Key Words: pain, depression, Hamilton scale

INTRODUCTION

Chronic pain is defined as that both emotionally and also somatic and sensorial unpleasant sensation that lingers a long period of time and reflects an existent or potential tissue lesion. But the pain definitions are numerous because it is very subjective. There are pain thresholds, each person feeling internal or external stimuli at certain intensity.

The chronic pain is more complex and hard to understand than the acute pain. In this case, one must take into account the pain impact on the psyche, but also the way in which the brain is able to understand the painful signals. The chronic pain can be characterized by abnormal neuro-hormonal response, by low energetic body tonus, by predisposition variations, muscular discomfort and intellectual performance interference. (1)

Pain and depression are close interconnected. Depression can determine physical symptoms that apparently do not have a somatic base (for example back ache or cephalgia). In other cases, depression can intensify the pain response or at least the suffering associated with the chronic pain. In its turn, pain can induce an important stress and depressive symptoms. (2)

Often, pain and depression create a vicious circle very hard to break for the patient. Present studies suggest that depression and pain have common ways of transmission to the limbic system (brain area responsible with emotions), and also common neuromediators. In addition, both depression and chronic pain are influenced by genetic and environment agents.

Depression is one of the most frequent features accompanying chronic pain and it very much complicates the patient's compliance to treatment, decreasing it, and also influencing the clinic evolution. (3, 4)

The specialists from California University performed a study which concluded that depressive persons feel pain more intensely. And this as a result of the fact that depression modifies the functioning of the neuronal network and the researchers claim that depression and chronic diseases would be "compatible". Therefore, over 75% of the depressive persons suffer from chronic pain and over 60% of patient with chronic diseases also present emotional disorders. (1, 5)

MATERIAL AND METHOD

The starting point of the study was the drawing up of an evaluation protocol as coherent as possible and indirectly underlining the special needs for psychological support of the overweight patient, often pluri-hospitalized due to associated pathology, by observing the pain perception modality of the patient on three important axes: somatic, social and relational.

There were included 240 patients of the C.F. University Hospital Iași, 5th Medical Clinic of Internal Medicine and Geriatrics – Gerontology. These patients were divided in four groups, according to age and weight status:

- LOT 1 – overweight young person (62 patients);
- LOT 2 - overweight elderly person (61 patients);
- LOT 3 – not overweight young person (58 patients);
- LOT 4 – not overweight elderly person (59 patients).

The patients' evaluation was made based on a chart of statistic processing and standardized monitoring from the point of view of clinical aspects, paraclinical aspects (bio-chemical and imagistic explorations), psycho-somatic, and therapeutic implications, respectively.

The patients were monitored and evaluated for three months, nine months and one year.

For each patient, function of the anamnestic data and value of the obtained biochemical values, there was drawn up one individual protocol to be followed, protocol that included both medication and also a physical training program (minimum 30 minutes per day) and a personalized diet (for overweight persons a maximum of 2000 kcal/day).

The identification of the subjects suffering from clinical depression means the distinguishing of the cases with significant depression from general population or differentiation of the patients with clinical depression from patients with other clinical disorders.

The HRSD scale (Hamilton Rating Scale for Depression) was introduced in 1960 by Hamilton and became the most used scale in this area. Although it appeared in the same year with the Cronholm-Ottosson depression scale, the Hamilton scale became by far the most used scale and an international communication instrument among investigators. It is especially used in psycho-pharmacologic studies in a standard evaluation test set for the symptom severity and sensibility to change and generated a huge "data-base" for analytical and comparing studies. The Hamilton scale is widely used also for its instructive value in the training process of new psychiatrists and clinician psychologists.

Among the scales used for measuring depression, the Hamilton scale proves to be the most operational in defining the "healing" phase of the depression state, therefore for therapeutic amendment of depressive phenomena, and this implies an asymptomatic state at least 6 months long and an average score below 7 after obtaining a good clinical remission. (3)

TABLE I. ANOVA Test concerning the Hamilton scale evolution

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	9,215	3	3,072	9,420	,000
Within Groups	77,275	237	,326		
Total	86,490	240			

In order to verify if there are significant differences among the groups of patients as concerns the values indicated by HAMILTON SCALE we used Oneway Anova. The analysis highlighted the existence of an impact of the group on the indicated value $F(3,237) = 9,42$ $p < 0,01$ (tab. I).

The Post Hoc Bonferroni test (tab. II) shows significant differences among the groups of patients; therefore we can observe that the young overweight patients have a predisposition to depression similarly to not overweight elderly patients due to their associated pathology, and also to the lack of mobility and social isolation. We must not forget that these patients (young overweight patients) have as associated pathology both neurological disorders that sometimes lead to depression and also cardiovascular disorders that sometimes induce depression because of the vital risk they represent.

TABLE II. Post Hoc Bonferroni Test for comparing HAMILTON scale result in the studied groups

(I) Patient's groups	(J) Patient's group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Young overweight	Elderly overweight	,28345*	,10298	,038	-,5574	-,0095
	Not overweight young	,27308	,10431	,046	-,0044	,5506
	Not overweight elderly	-,00968	,10341	1,000	-,2848	,2654
Elderly overweight	Young overweight	,28345*	,10298	,038	,0095	,5574
	Not overweight young	,55653*	,10472	,000	,2779	,8352
	Not overweight elderly	,27377	,10382	,044	-,0025	,5500
Not overweight young	Young overweight	-,27308	,10431	,046	-,5506	,0044
	Elderly overweight	-,55653*	,10472	,000	-,8352	-,2779
	Not overweight elderly	-,28276*	,10515	,046	-,5625	-,0030
Not overweight elderly	Young overweight	,00968	,10341	1,000	-,2654	,2848
	Elderly overweight	-,27377	,10382	,044	-,5500	,0025
	Not overweight young	,28276*	,10515	,046	,0030	,5625

* The mean difference is significant at the 0.05 level.

$$M_{to} - M_{tn} = 0,27 \text{ with } p < 0,04$$

$$M_{to} - M_{vo} = -0,28 \text{ with } p < 0,03$$

$$M_{to} - M_{vn} = -0,09 \text{ with } p = 1$$

$$M_{vo} - M_{vn} = 0,27 \text{ with } p < 0,04$$

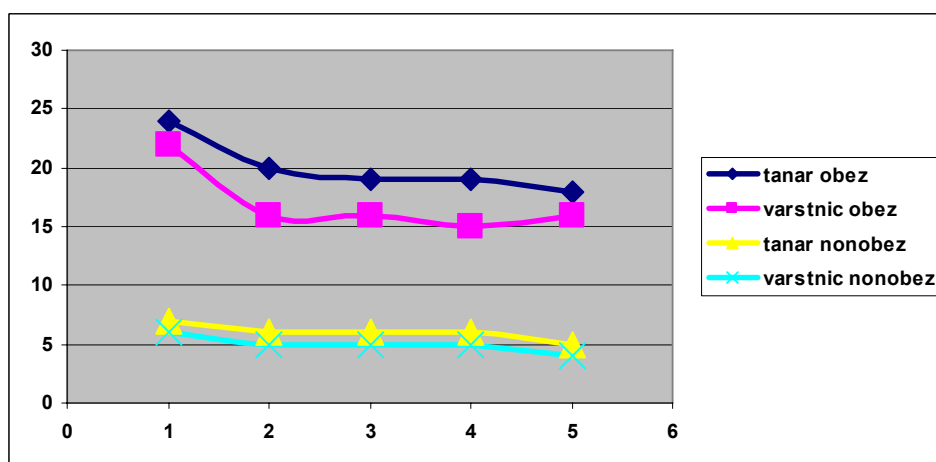


Fig. 1. Value evolutions for Hamilton scale scores during study period

Monitoring the evolution of the scores obtained by the Hamilton scale during this study (fig. 1) we observe a decrease of the depressive states in overweight patients once they lost weight and improved their self esteem and their own image.

CONCLUSIONS

1. Pain is an unpleasant sensation, the nociceptive perception is a measurable psychological event associated with pain and suffering. Pain can exist outside the nociceptive perception as a response to external stimuli or internal cognitive events. Pain was defined in various ways, certain is that pain is not the same thing with nociception. Pain has various intensities and locations, is acute or chronic. Many times, chronic pain has a psychosomatic or psychogenic cause. Therefore, in the complex process of pain evaluation and especially in the analysis of chronic pain framework, pain evaluation asks for appraisals like establishing the pain areas and measuring the pain intensity by means of various tests.

2. Loss of weight positively modifies the clinic-biologic status of the patient, ameliorates pain and improves life quality and, implicitly, decreases the depression level.

3. The depression of overweight patient appears both as a result of reduced mobility and pain with installed polymorph etiology, and also as a result of social role reduction by making impossible achieving some tasks and of a self image that is sometimes profoundly changed.

4. The patients that associate painful ischemic cardiopathy have a high level of depression that can be explained by the risk of sudden death that this affection has as possibility and that the patient is aware of.

5. The non painful arrhythmias and ischemic cardiopathies do not correlate with a high level of depression due to the fact that they can be silent, being accidentally discovered, often during some routine medical examinations.

6. For the younger patients, probably the emotional distress intensely lived by these becomes an activating factor of recovery after the acute phase of the disease, these patients perceiving pain from the perspective of invalidity having higher scores in Pain Disability Index (PDI).

7. In the case of patients suffering from cerebrovascular accident (CVA) there cannot be mentioned the depression cause, and this can be associated with neurological disorder.

8. In the context of some cardiovascular disorders or neurological disorders of the elderly patients, there takes place a high decrease of the self esteem that can be explained by associated social factors.

9. The role of the elderly persons into society tends to be diminished in the last decades; the retirement accentuates the uselessness feeling, and the children leaving the house, isolates them more. The impossibility of self care is also a factor that can lead to self image modification. On this background, the elderly person is no more sufficiently motivated in physically recovery, at least under limitations of physical possibilities.

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