Original Article

Indian Journal of Anaesthesia and Analgesia
Volume 4 Number 2, April - June 2017 (Part–2)
DOI: http: / / dx.doi.org / 10.21088 / ijaa.2349.8471.4217.7

Psychosomatic Evaluation of Chronic Pain in Patients with Malignancy and Non Malignant Pain

Ashok Vats*, Chandnani Anup S.**

Abstract

Definition of *chronic pain* is "pain that extends beyond the expected period of healing". Chronic pain affects the psyche of an individual apart from the physical agony that it gives [1]. The objective of this study was to evaluate the somatic and psychological aspects of chronic pain of cancer and non cancer pain using Visual Analogue Scale (VAS) [2] and General Health Questionnaire (GHQ-28) [3] and treating the psychological aspect when GHQ-28 was more than 9 with an anti depressant (imipramine) along with neurolytic blocks and analgesics (morphine for cancer patients and Pregablin for non cancer pain)

A prospective study comprising of thirty patients of cancer pain (Group – C) (head and neck malignancy) and thirty patients of non cancer pain (Group N)(Trigeminal Neuralgia) of either sex between 21-90 years of age were selected. After detailed history, physical examination and proper pain mapping patients were evaluated for physical component with VAS and psychological component with GHQ-28. They were subjected to neurolytic block as per presentation and then given either morphine 30 mg b.i.d. (group C) or Tab Pregablin 75 mg b.i.d. and were followed on 3,7 and 10th day of block with VAS and GHQ-28. Tab. Imipramine 150 mg o.d. was added if GHQ-28 was found to be more than 9 on first follow up visit. There was improvement in VAS in both the groups on 2nd 3rd and 4th follow up visit. Group C showing VAS improvement of 33.61±21.9, 50.53±25.32 and 67.05±23.91 while Group N showed 27.34±20.86, 73.53±6.58 and 89.77±25.3 respectively and these changes were statistically significant (p<0.01). The percentage improvement in GHQ-28 at subsequent sittings was 16.87±12.77, 30.87±12.88 and 41.47±14.27 for Group C (p<0.01) while in Group N it was 2.05±7.33 at all subsequent sittings (p>0.05) (absence of psychological component)

VAS being a sensitive tool for assessing the improvement in pain relief and GHQ-28 helpful in detecting diagnosable changes in mental health with sensitivity of 77% and specificity of 67% in depressive disorders in patients with chronic pain are both quite helpful in assessing the severity of chronic pain and thereby helping us to guide for further action in guided management of chronic pain

Keywords: VAS; GHQ-28; Pain Somatic and Psychological Component.

Introduction

Pain as defined by International Association for Study of Pain (IASP) is "An unpleasant sensory and emotional experience associated with actual or potential tissue damage", and definition of *chronic pain* is "pain that extends beyond the expected period of healing" [10]. Chronic pain affects the psyche of an individual apart from the physical agony that it gives [1]. Chronic pain's impact on cognition is an under-researched area, but several tentative conclusions have been published. Most people with chronic pain complain of cognitive impairment, such as forgetfulness, difficulty with attention, and difficulty completing tasks. Objective testing has found that people in chronic pain tend to experience impairment in attention, memory, mental flexibility, verbal ability, speed of response in a cognitive task, and speed in executing structured

Author's Affiliation:
*Tuter, Department of Anesthesiology, MP Shah Medical College, Jamnagar, Gujarat 361008.
**Associate Professor, Department of Anesthesiology, GMERS Medical College, Vadodara, Gujarat 390021.

Corresponding Author:
Chandnani S. Anup, A-20 Sunderam Park society, VIP road, Karelibaug, Vadodara – 390018.
E-mail: anupchandnani29@gmail.com

Received on 27.03.2017
Accepted on 04.04.2017

tasks. This all may lead to a depressive state of mind or the neuroticism which needs immediate attention. Chronic pain of different etiologies has been characterized as a disease affecting brain structure and function.

Magnetic resonance imaging studies have shown abnormal anatomical and functional connectivity, even during rest involving areas related to the processing of pain. Also, persistent pain has been shown to cause grey matter loss, reversible once the pain has resolved.

Keeping this in mind a prospective study to evaluate the somatic and psychological aspects of chronic pain of malignant or non malignant origin using Visual Analogue Scale (VAS) [2] and General Health Questionnaire (GHQ-28) [3] and treating the psychological aspect with anti depressant along with neurolytic blocks and analgesics (morphine for cancer patients and pregablin for non cancer pain) was undertaken in the patients attending the pain clinic of our hospital.

Methods

A prospective study to assess the somatic and psychological component of chronic pain was undertaken in sixty patients of either sex (M:F=22:8) aged between 21-90 years attending the pain clinic of our hospital. The patients were divided in two groups:

Group C (n=30): comprising patients with pain of malignancy of head and neck (tongue, tonsil and larynx)

Group N (n=30): comprising patients with pain of non malignancy in origin (Trigeminal Neuralgia)

After a detailed history, thorough physical examination and pain mapping, the pain was evaluated using a VAS (Visual Analogue Scale) for the somatic component and the General Health Questionnaire (GHQ-28) for the psychological component.

Neurolytic blocks were given according to the type of presentation. After the block the patients in Group C were given supportive medication of Morphine tablets (30 mg) b.i.d. and Group N were given Tab Pregablin 75 mg b.i.d [9].

Patients were called up for follow up visit on 3rd, 7th and 10th day after the block for assessing the relief in pain using VAS and GHQ-28. Tablet Imipramine 150mg o.d. was added if GHQ-28 was found to be more than 9 on first follow up visit (Table 1).

VAS

The pain VAS is a continuous scale comprised of a horizontal (HVAS) or vertical (VVAS) line, usually 10 centimeters (100 mm) in length, anchored by 2 verbal descriptors, one for each symptom extreme. For pain intensity, the scale is most commonly anchored by "no pain" (score of 0) and "pain as bad as it could be" or "worst imaginable pain" (score of 100 [100-mm scale]). To avoid clustering of scores around a preferred numeric value, numbers or verbal descriptors at intermediate points are not recommended

GHQ-28

The GHQ-28 consists of 28 questions designed to identify whether an individual's current mental state differs from his/her typical state. Questions include:

Have you recently been feeling perfectly well and in good health?

Have you recently lost much sleep over worry?

Have you recently been managing to keep yourself busy and occupied?

Have you recently felt constantly under strain?

Have you recently felt that life is entirely hopeless?

Factor Analysis of the GHQ-28 Identified Four 7-Item Subscales

Somatic symptoms (items 1-7)

Anxiety/insomnia (items 8-14)

Social dysfunction (items 15-21)

Severe depression (items 22-28).

Observation and Results

The mean percentage improvement in VAS in group C in 2ND 3RD and 4TH follow up visit was 33.61±21.9, 50.53±25.32 and 67.05±23.91 respectively while Group N showed 27.34±20.86, 73.53±6.58 and 89.77±25.3 respectively and these changes were statistically significant (p<0.01) in both groups (Table II). The percentage improvement in GHQ-28 at subsequent sittings was 16.87±12.77, 30.87±12.88 and 41.47±14.27 for Group C as compared to initial visit. These changes were statistically significant (p<0.01). In Group N it was 2.05±7.33 at all subsequent sittings when compared to the initial sitting (table III) and this was statistically not significant (p>0.05)

Table 1: Showing the type of nerve blocks given to the patients in the two groups

Block	Group C		Group N	
	No.	%	No.	%
Maxillary	8	26.66	24	80
Mandibular	10	33.33	5	16.3
Ophthalmic	0	0	1	3.3
Stellate	4	13.33		
Glossopharangeal	4	13.33		
Deep Cervical	4	13.33		
Total	**30**		**30**	

Table 2: Showing the means percentage improvement in vas at 2nd 3rd and 4th followup visit when compared to initial in the two groups

GROUP C			GROUP N		
2nd	3rd	4th	2nd	3rd	4th
33.61±21.19	50.53±25.32	67.05±23.91	27.34±20.86	73.50±36.58	89.77±25.33
8.68	10.9	15.34	7.71	11.00	19.47
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Highly significant	Highly significant	Highly significant	Highly significant	Highly significant	Highly significant

2nd 3rd and 4th indicate the follow up visit of patient on 3rd, 7th and 10th day

Table 3: Showing the means percentage improvement of ghq-28 at 2nd 3rd and 4th followup visit when compared to initial in the two groups

	GROUP C			GROUP N		
	2nd	3rd	4th	2nd	3rd	4th
Mean±SD	16.87±12.77	30.87±12.8	41.4±14.2	2.05±7.33	2.05±7.33	2.05±7.33
Pair *t*	7.24	13.1	16.01	1.57	1.57	1.57
p value	<0.01	<0.01	<0.01	>0.05	>0.05	>0.05
Inference	Highly significant	Highly significant	Highly significant	Not significant	Not significant	Not significant

2nd 3rd and 4th indicate the follow up visit of patient on 3rd, 7th and 10th day

Discussion

Visual Analogue Scale (VAS) as a pain rating scale is a sensitive, reliable and reproducible tool in same patients at different sittings [4]. In all the patients of this study improvement in pain relief after neurolytic blocks was reflected by VAS. Wilkie et al [6] 1990 studied the validity and specificity of VAS as a toll to assess severity of cancer pain and concluded that addition of psychometric scale to VAS can improve the validity of VAS for assessing cancer pain. Goldberg et al (1989) [7] studied the usefulness of GHQ-28 as a tool to detect current diagnosable changes in mental health with sensitivity of 77% and specificity of 67% in depressive disorders in patients with chronic pain.

Pain of chronic nature, apart from physical agony, definitely affects the psyche of the individual [1]. Nerve blocks and analgesics are parts of multimodal therapy for relief of cancer pain but this may not be adequate if the psychological components of suffering are left untreated or ignored. Emotional disturbances accompanying pain are a consequence rather than a cause of pain [5].

In this study evaluation of psyche of an individual with GHQ-28 and addition of tricyclic antidepressants, imipramine when GHQ-28 was more than 9 along with block and analgesics showed improved psychological behavior in cancer patients [8]. No patients in group N had a GHQ-28 score of more than 5 which implies absence of a significant psychological component.

It can be concluded that the VAS and GHQ-28 are reliable and sensitive indicators of somatic and psychological component of chronic pain. Addition of tricyclic antidepressants along with neurolytic blocks and analgesics can definitely improve the psyche of an individual especially in a patient with cancer pain.

References

1. Russo CM, Brose WG. Chronic pain. Annu Rev Med 1998; 49:123-33.
2. Banos JE et al. Acceptablility of Visual Analogue Scale in clinical settings – A comparison with Verbal Rating Scale (VRS). Exp. Clin Pharmacol 1989 Feb;

11(2): 123-7.

3. D. Godlberg, Lodzi. Usefulness of Health Status Questionnaire – 28 for diagnosis of mental disorders. Med Pr 2002; 51(6):589-596.
4. Miller MD, Ferris DG. Measurement of subjective phenomenon in primary care research – the Visual Analogue Scale. Fam Pract Res J 1993 March; 13(1): 15-24.
5. Gamsa A. Is emotional disturbance a precipitation or a consequence of chronic pain. Pain 1990; 42(2): 183-95.
6. Wilkie D, Lovejoy N et al. Cancer pain intensity: concurrent validity of Visual Analogue Scale and pain intensity number scale. Hosp J 1990; 6(1):1-13.
7. 7 Goldberg RJ, Morris PL. Validity of GHQ-28 in hospitalized patients with chronic pain. Psychosomatics 1989; 30(3):290-5.
8. Ward NG. Effectiveness of tricyclic antidepressants in treatment of coexisting pain and depression. Pain 1979 Dec; 7(3):331-4.
9. Vivek Verma et al Pregablins in Neuropathic pain – Evidence and possible mechanisms. Curr Neuropharmacol. 2014 Jan; 12(1):44–56.
10. Turk, D.C.; Okifuji, A. "Pain terms and taxonomies". In Loeser, D.; Butler, S. H.; Chapman, J.J.; Turk, D. C. *Bonica's Management of Pain* (3rd ed.). Lippincott Williams & Wilkins. 2001.p.18–25. ISBN 0-683-30462-3.

STUDIA PSYCHOLOGICA, 42, 2000, 4361

APPENDIX

The 28-items of the scaled version of the GENERAL HEALTH QUESTIONAIRE
(Goldberg, Hiller, 1979)
HAVE YOU RECENTLY:

1. Been feeling perfectly well and in good health?
2. Been feeling in need of a good of a good tonic?
3. Been feeling run down and out of sorts?
4. Felt that you are ill?
5. Been getting any pains on your head?
6. Been getting a feeling of tightness or pressure in your head?
7. Been having hot or cold spells?
8. Lost much sleep over worry?
9. Had difficulty in staying asleep once you are off?
10. Felt constantly under strain?
11. Been getting edgy and bad-tempered?
12. Been getting scared or panicky for no good reason?
13. Found everything getting on top of you?
14. Been feeling nervous and strung-up all the time?
15. Been managing to keep yourself busy and occupied?
16. Been taking longer over the things you do?
17. Felt on the whole you were doing things well?
18. Been satisfied with the way you've carried out your task?
19. Felt that you are playing a useful part in things?
20. Felt capable of making decisions about things?
21. Been able to enjoy your normal day-to-day activities?
22. Been thinking yourself as a worthless person?
23. Felt that life is entirely hopeless?
24. Felt that life isn't worth living?
25. Thought of the possibility that you might make away with yourself?
26. Found at times you couldn't do anything because your nerves were too bad?
27. Found yourself wishing you were dead and away from it all?
28. Found that the idea of taking your own life kept coming into your mind?