

Psychiatric symptoms and recovery process in patients undergoing cholecystectomy

Abstract

Purpose: The present study's purpose was to investigate the psychiatric symptoms in patients scheduled for cholecystectomy, and possible changes in psychiatric symptomatology during recovery.

Methods: Fifty-five patients, who were scheduled for cholecystectomy, completed the following psychometric instruments:

- Hostility and Direction of Hostility Questionnaire (HDHQ) which measures intensity and direction of non physical hostility.
- Delusions, Symptoms, States, Inventory/states of Anxiety and Depression (DSSI/sAD).
- Symptoms Check List-90 (SCL-90R). Pain, insomnia, preoperative and postoperative use of analgesics, along with complications after surgery and days of stay in the hospital were also examined. Only 25% of the patients who reported preoperative pain received analgesic medication. Among the latter, 13% of them received sedative medication.

Results: In HDHQ, higher levels of hostility, with an intropunitive direction [males: 5.2 (sd=2.3), females: 5.8(2.5)] were reported by the patients with preoperative insomnia. High levels of hostility with an extrapunitive direction [males: 12.4 (sd=4.8), females: 11.8 (sd=3.8)] were reported by the patients who developed complications after surgery. A high percentage of those patients reported psychiatric symptoms mainly anxiety, depression and somatomorform symptoms in DSSI/sAD [Anxiety: 3.93 (sd=3.51), Anxiety/Depression: 5.87 (sd= 6.30)] and in SCL-90 [Somatization: males: 9.2 (sd=7.0) and females: 15.8 (sd= 9.4), Depression: males: 13.1 (sd=7.5), females: 17.4 (sd=9.3)]

Keywords: psychiatric symptoms, cholecystectomy, hostility, anxiety, depression

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Introduction

It is quite interesting that undergoing a surgical operation could raise psychological difficulties or deteriorate certain psychological parameters.

Hospitalization anxiety: Being admitted to a hospital is a unique and possibly terrifying experience, and this whole process could produce feelings of anxiety to the patients. Personality traits play their role, as well. Mittelman et al.¹ after having studied a sample of 450 surgical and medical admissions, reported that during hospitalization 30% of the patients suffered from mild or serious personality disturbances.

Insomnia: Insomnia could be the result of either pain or anxiety.

Surgery anxiety: Major surgery is a traumatic experience that can produce anxiety and the assimilation of the anxiety signal is critical.

Postoperative pain: Has been reported to be the most distressing part of the postoperative course for patients having abdominal pain.² Likewise, studies of cholecystectomy patients have indicated that pain is a major problem and that it correlates with decreased pulmonary complications.^{3,4} There is evidence to suggest that pre-operative explanations may be associated with a reduction in postoperative pain.⁵ In addition, sex, race and socioeconomic level of a patient apparently have an impact on the pain response.⁶

Preoperative feelings and postoperative difficulties: Janis⁷ found that patients showing an extremely low degree of preoperative

anticipatory fear are likely to have postoperative difficulties of resentment distrust and aggressiveness, often interfering with the postoperative course. Preoperative is suggested to be related to the postoperative emotional state and the postoperative outcome.⁸⁻¹⁰

Discharge feelings: Boyd et al.¹¹ in a study of 27 males undergoing reconstructive vascular surgery for occlusive disease found that, at the time of discharge, only 15% of them showed a positive feeling tone. The rest appeared depressed, anxious or disgruntled.

Postsurgical recovery: Clinical workers have long observed that surgical patients under roughly comparable medical conditions differ greatly between each other during the course of postsurgical recovery. Plausible explanations of this variation are based on personality traits and different ways of coping with stress.^{5,7,12} The purpose of the present study was to investigate psychopathology in patients undergoing colcystectomy. Colcystectomy is a safe, common operation, which takes place in a scheduled routine process. The principal hypothesis was that patients' psychopathology goes through changes, even throughout this "non risky" surgery. Therefore, the study wished to shed light into the psychiatric symptoms of patients scheduled for cholecystectomy and the possible changes in their psychiatric symptomatology during recovery.

Subjects and method

Eighty-one consecutive patients scheduled for cholecystectomy were asked to participate. Twenty-six of them were excluded, due

to their refusal to participate or their inability to cooperate. Finally, fifty-five patients entered the study. Twenty four of them were males (43%) and 31 (56.4%) females. Mean age in years was 53.9 (min. 27; max.76). Thirty six patients were admitted formally and 18 from the casualty department. All participants were asked to fill the Hostility and Direction of Hostility Questionnaire (HDHQ), the Delusions Symptoms States Inventory/states of Anxiety and Depression (DSSI/sAD) and the Symptom Check List-90R (SCL-90R). Hostility features were measured by HDHQ, while psychiatric symptomatology was evaluated by the Delusions Symptoms States Inventory/states of Anxiety and Depression (DSSI/sAD) and the Symptom Check List-90R (SCL-90R). Patients were, also, examined pre-operatively for the existence of pain, the use of analgesics, insomnia, and use of hypnagogics. Post-operatively, they were examined for pain, analgesics and restlessness, use of sedatives, complications and subjective feeling of improvement. The way of admission (formal or informal) and the days of stay in the hospital were recorded, as well. None of the patients have had psychiatric treatment at any time. In addition, none of them suffered from anemia, liver, renal, cardiac or endocrine diseases. The statistical analysis was carried out using the Statistical Package for the Social Sciences, SPSS/PC⁺.¹³ For the ordinal variables the nonparametric rank-order correlation coefficient Kendall's τ -b was used.

Results

Preoperatively: Twenty five patients (45.6%) reported preoperative pain and 14 (25.5%) received analgesic medications. Twenty two complained for preoperative insomnia and 7 (13%) received sedative medication.

Postoperatively: All patients reported postoperative pain. Twenty one patients (42.9%) reported insomnia and only 9 (18.4%) received sedative medication. Mean time of the stay in the hospital after the operation was 8.25 days (minimum 4, maximum 30). Thirty patients (62.5%) remained in the hospital between four and seven days, fifteen (31.3%) between 8 and 14 days and three patients (6.3%) between 15 and 30 days. None suffered serious postoperative complications. Mild complications were observed in 6 patients (12%).

Hostility scale (HDHQ): Patients, both males and females, scored high in total hostility scale. Males have reported higher in hostility towards others-extrapunitiveness-while females scored higher in intrapunitiveness-hostility towards oneself.

Delusions Symptoms States Inventory/states of Anxiety and Depression (DSSI/sAD): All patients scored higher in anxiety subscale, while females scored higher than males. In anxiety/depression subscale, both males and females reported high scores.

Symptom Check List-90R (SCL-90R): All patients reported high scores in somatization and depression subscales. The patients' scores in HDHQ, DSSI/sAD and SCL-90 are shown in Tables 1–3. Postoperatively, all patients reported various degrees of positive feelings and subjective feelings of improvement.

Table 1 Scores of patients in HDHQ

	Males (N=24)		Females (N=31)	
	Mean	sd	Mean	sd
Acting Out Hostility	4.3	1.7	3.6	1.2
Criticism of Others	5.4	2.6	5.7	2.3
Paranoid Hostility	2.6	2.1	2.4	2.0

Table Continues..

	Males (N=24)		Females (N=31)	
	Mean	sd	Mean	sd
Self Criticism	3.8	1.7	3.6	1.3
Guilt	1.4	1.4	2.1	1.5
Extrapunitiveness	12.4	4.8	11.8	3.8
Intropunitiveness	5.2	2.3	5.8	2.5
Total Hostility	17.6	6.1	17.5	5.3

Table 2 Scores of patients in DSSI/sAD

	Males (N=24)		Females (N=31)		All (N=55)	
	mean	sd	mean	sd	mean	sd
Anxiety	2.92	2.69	4.71	3.89	3.93	3.51
Depression	2.04	2.96	1.87	3.29	1.95	3.12
Anxiety/Depression	4.96	5.54	6.61	6.83	5.87	6.30

Table 3 Scores of patients in SCL-90

	Males (N=24)		Females (N=31)		r
	mean	(sd)	mean	(sd)	
Somatization	9.2	(7.0)	15.8	(9.4)	0.006
Obsessive Compulsiveness	8.0	(5.0)	7.6	(5.5)	0.279
Interpersonal Sensitivity	6.2	(4.6)	5.8	(4.9)	0.326
Depression	13.1	(7.5)	17.4	(9.3)	0.07
Anxiety	8.3	(6.1)	10.5	(7.6)	0.159
Hostility	3.7	(3.3)	3.4	(3.0)	0.344
Phobic Anxiety	1.7	(1.7)	2.9	(2.9)	0.078
Paranoid Ideation	5.1	(4.5)	5.2	(3.7)	0.316
Psychoticism	3.7	(2.8)	4.1	(2.6)	0.217

Discussion

The present study has found higher levels of hostility, with an intropunitive direction in the patients with preoperative insomnia. In addition, high levels of hostility with an extra punitive direction were also reported by the patients who developed complications after surgery. A high percentage of those patients reported psychiatric symptoms mainly anxiety, depression and somatomorform symptoms. Patients with preoperative pain and insomnia reported higher scores on psychiatric symptoms. Anxiety and depressive symptoms found to be associated with an extended length of stay in the hospital. These findings are in accordance with others authors' work and ways of approaching surgical patients. Deutch¹⁴ believed the chief factors in the psychic reactions to surgery are: the psychology of the individual, his neurosis and his antecedent situation; the meaning of the operation, including both anesthesia and surgical attack; the postoperative reaction. The role of anxiety is a determinant of the patient's physiological status immediately prior to and during anesthesia and operation. Lucente and Fleck¹⁵ emphasized on hospitalization anxiety. It is a state that results from this environmental change. It is described as an unpleasant feeling, as if somebody is in danger, but cannot detect or define the exact danger. It is difficult to be verbalized and quite often accompanied by nonverbal manifestations, both somatic and psychological dysfunctions. Large teaching hospitals are found to be more threatening than small community hospitals. It is

important to point out that hospitalization anxiety takes place during hospitalization, but it is not necessarily about the hospitalization per se. As precipitating factors could be regarded as:

1. The hospital
2. The physician-patient relationship,
3. The possible consequences that illness could have, regarding the social, economic and emotional life of the patient.
4. The patient's personality.

This is thought to be the most important factor, which determines the patient's attitude towards hospitalization. Surgical patients differ greatly between each other during the course of postsurgical recovery. Cohen and Lazarus¹⁶ found that patients using vigilant modes of coping generally showed a slower course of recovery especially as far as the number of days in hospital is concerned. The vigilant group did not use higher amounts of analgesics. Another possible explanation¹⁶ views the vigilant coopers as individuals who were using a strategy of actively trying to master the world by seeking information and trying to learn everything about their operation. It is possible that the vigilant group was more anxious postoperatively, but then we might have expected increased use of pain medications.¹⁷ It is one clear that recovery from surgical procedures can be influenced by psychological factors.^{18,19} The pioneering work of Janis⁷ contributed to a theoretical concept which continues to underpin many of the attempts to explain this influence: that is patients' anxiety mediates the relationship of preoperative psychological state to postoperative recovery.

The process of recovery after surgery, related to physiological, behavioral and psychosocial events, is not only a matter of improvement and return to physical strength and energy but includes a complex of behavioral events which could be influenced from factors such as coping styles, complains for pain, use of tranquilizers etc. Thus, knowledge of personality variables and possibly of psychopathology may contribute significantly to the improvement of the care provided to the patient. It is essential that each patient exposed to the great stress of a surgical procedure be allowed to undergo that experience under optimal conditions. Apart from that, the unsatisfactory patient-stuff communication appears to be a major complain among the hospitalized patients.²⁰⁻²² The value of a preoperative visit by an anesthetist in reducing anxiety has been substantiated.²³ This visit can considerably reduce a patient's anxiety since some of the apprehension regarding surgery does relate specifically concerns about anesthesia.

As far as the used psychometric tools are concerned, some features should be highlighted. So, the HDHQ²⁴ is an attitudinal measure for a wide range of possible manifestations of hostility, having little implication of aggressive behavior physically expressed. Two dimensions underlie hostility as it is measured by the HDHQ: a readiness to respond with aggressive behavior and a tendency to evaluate persons, including the self, in negative terms. It consists of five subscales in 52 items. Three subscales, acting-out hostility, criticism of others and paranoid hostility are measures of extrapunitive. Two subscales, guilt and self-criticism are measures of intropunitive. Total hostility is the sum of the five subscales. The accepted norms for total hostility in normal populations are between 12-14 but higher norms have been also suggested.²⁴ The HDHQ has been used in Greek normal populations and psychiatric or somatic patients.^{25,26} The DSSI/sAD²⁷ is a questionnaire examining symptoms of anxiety and depression. It consists of fourteen questions, seven

for each subscale. It can be used as a screening test in discriminating normals from psychiatric patients, but it is also an indicator of the intensity of anxiety and depression. The total score for each subscale is the sum of the scores of its items (range 0-21) and the cut off score is 3. Eighty-two percent of the general population give scores below the cut off, and should be considered as free from symptoms.²⁸ Eleven percent give scores between 3 and 6 and are regarded as having some sort of borderline psychopathology whilst seven percent score above six and could be regarded psychiatric patients. This is not a well known or widely used instrument despite its interesting properties that make it preferable in screening studies. It is very easy to complete and gives a simple and rapid evaluation of anxiety and depression. It focuses exclusively on recent symptoms, uncontaminated by items related to personality or other attributes. An instrument like this, incorporating anxiety and depression, seems to be more appropriate for surveys in medical patients since it is well established that these symptoms mainly coexist and therefore should be co-examined. In Greek populations data from normals as well as psychiatric and medical patients are available.²⁸⁻³⁰ Finally, the SCL-90R^{31,32} is a 90 item psychiatric symptom inventory, oriented toward the measurement of psychopathology in psychiatric and medical outpatients. It contains nine dimensions of psychiatric symptomatology: Somatization (SO), Obsessive-Compulsiveness (OC), Interpersonal Sensitivity (IS), Depression (DE), Anxiety (AN), Hostility (HO), Phobic Anxiety (PH), Paranoid Ideation (PI) and Psychoticism (PS). SCL-90 is a self-report measure for persons aged at least 13 years. It consists of 90 items that represent nine factors and seven additional questions that are configure items, primarily concerning disturbances in appetite and sleep patterns and are not scored collectively as a dimension. Each of the nine symptom dimensions contains 6-13 items. Items are rated on a five-point Likert-scale of distress, ranging from "not at all" [0] to "extremely".⁴ The General Severity Index (GSI) is the average score for all responded items and serves as an overall measure of psychiatric distress. Donias et al.³³ have standardized the scale in Greek population.³³

The major limitation of this study is the absence of a group of healthy subjects to be compared to the group of surgical patient's. Apart from that, the group of patients is not a large sample, since only fifty-three patients participated in the study. As a conclusion, a message towards medical doctors should be transferred: It would be of the patient's best benefit if the doctor devoted some time to talk to the patient and provide him with all the information asked, even for "light" operations, such as colcystectomy. Anxiety, Hostility and Depression often reflect unknown or unspoken fears, which are thus inaccessible to caregivers. These feelings may, in fact, reflect a patient's fear that no help is available. Let alone surgeries with high risk, operations that need hours to be completed, or surgeries that aim to cure patients suffering from cancer. Communication between the physician and the patient is a major issue, so that interaction between them can result to either a more serene or a more anxious and insecure patient.

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None.

Conflicts of interest

Author declares that there is no conflict of interest.

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