

Original Article

The Frequency of Alcoholism Among Patients with Pain Due to Terminal Cancer

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Abstract

The purpose of this retrospective study was to determine the prevalence of alcoholism among terminally ill cancer patients when assessed by multidisciplinary interviews and by the CAGE Questionnaire. We reviewed the charts of 100 consecutive patients assessed by a multidisciplinary team for the presence of alcoholism during 1989, and 100 consecutive patients assessed by the CAGE Questionnaire during 1992. Alcoholism was diagnosed in 28/100 patients during 1989 (28%) and 18/66 patients during 1992 (27%). Thirty-four patients were unable to complete the CAGE Questionnaire in 1992 because of sedation or cognitive impairment; six of these patients (17%) were found to be alcoholics after multidisciplinary assessment. Only 9/28 (32%) and 8/24 (33%) patients diagnosed as alcoholics during 1989 and 1992, respectively, had been previously diagnosed as alcoholics according to the medical charts. The mean equivalent daily dose of morphine during admission and on Day 2 during 1992 were 153 ± 193 mg and 183 ± 198 mg for alcoholic patients, versus 58 ± 80 mg and 70 ± 79 mg for nonalcoholics ($P = 0.06$ and 0.03 , respectively). The maximal dose of opioid and the pain intensity during admission, however, were not significantly different between alcoholics and nonalcoholics. Our results suggest that alcoholism is highly prevalent and underdiagnosed among symptomatic terminally ill cancer patients. The CAGE Questionnaire should be used for screening for alcoholism in this population. When multidimensional assessment and management of pain is applied, the outcome of alcoholic patients appears to be similar to that of nonalcoholics. *J Pain Symptom Manage* 1995;10:599-603.

Key Words

Alcoholism, cancer, terminal, opioid, assessment

Introduction

Alcoholism occurs in approximately 5%–25% of the population.¹ The prevalence is higher among hospitalized patients.^{2,3} The

presence of alcoholism has been identified as a poor prognostic factor for pain control, and for patient and family coping skills.^{4,5} However, it is frequently underdiagnosed.⁶

Since 1988, our Multidisciplinary Palliative Care Team has screened all patients and families for the presence of alcoholism. While such multidisciplinary assessment results in frequent diagnosis, it requires extensive assess-

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ment of patients and families, which can only take place in admitted patients, and has significant financial cost. During 1992, the CAGE Questionnaire^{2,6} was introduced in our Program. This is a simple and reliable four-question interview for the screening of alcoholism (Appendix I).

The purposes of this study were to review the frequency of alcoholism among terminally ill cancer patients when assessed by multidisciplinary interviews or by the CAGE Questionnaire, and to evaluate the association between alcoholism and pain control and opioid use.

Methods

We reviewed the charts of 100 consecutive patients admitted to the Palliative Care Unit, Edmonton General Hospital, during 1989 (before the CAGE Questionnaire was established) and 100 consecutive patients admitted during 1992 (after the CAGE Questionnaire was established). In all cases, patients were admitted to this tertiary regional program because of severe symptom complexes. Approximately 80% of the admissions came from acute care hospitals and less than 20% of the admissions came from the community. In all cases, the following assessments took place:

1. The frequency of diagnosis of alcoholism was collected for both patient groups. During 1989, alcoholism was defined as the presence of a diagnosis of alcoholism in the charts. Alcoholism was diagnosed by the Palliative Care Team after multidisciplinary assessment of patient and family by a physician, nurse, social worker, occupational therapist, and pastoral care worker. The assessments took place over 3-5 days after admission and were discussed in a formal weekly meeting. The diagnosis followed the criteria of the Diagnostic and Statistical Manual III-Revised (DSM III-R).⁷ During 1992, alcoholism was diagnosed as the presence of a score of 2/4 or more in the CAGE Questionnaire. This questionnaire has been found to be reliable in the screening of alcoholism.⁶ This assessment was made by the second-year rotating family medicine resident during the patient's admission history. In addition, all patients during 1992 also underwent multidisciplinary assessment, and the results were compared with those from the CAGE.
2. Symptom distress as reported by the patient twice/day using the Edmonton Symptom Assessment System (ESAS).⁸ Patients report a total of nine symptoms (pain, activity, nausea, depression, anxiety, drowsiness, appetite, well-being, and shortness of breath) using a visual analogue scale (0=best, 100=worst). The intensity of symptoms was assessed during days 1, 2, and 7. All patients during 1989 and 1992 complained of cancer pain.
3. Dose of opioid analgesic. The total dose of different analgesics was translated into the equivalent dose of subcutaneous morphine using standard tables.⁹ The resulting mean equivalent daily dose (MEDD) was calculated for days 1, 2, and 7.
4. In all cases, alcoholic patients underwent intensive, multidisciplinary counseling. Emphasis was made on discussing with the patient the difference between physical pain, suffering, and coping chemically. A paradigm similar to the one applied in chronic benign pain was applied in all patients who displayed evidence of addictive behavior.¹⁰ Positive reinforcement was provided for increased function and socialization. Patients were managed by a team consisting of nurses, physicians, social worker, pastoral care, occupational therapist, and physiotherapist. All members were highly specialized in palliative care and worked under the supervision of a psychiatrist consultant. Whenever possible, the family was included and asked to participate in the assessment and counseling of the patient.
5. Statistical analysis was performed using *t* tests for continuous variables, Wilcoxon test for ordinal variables, and chi-square test for nominal variables, respectively, according to the Statistical Package for the Social Sciences (SPSS) system.¹¹

Results

Patient characteristics during 1989 and 1992 are summarized in Table 1. There were no significant differences between both groups.

All patients underwent multidisciplinary assessment in 1989. Alcoholism was diagnosed

Table 1
Patient Characteristics

	1989 (%)	1992 (%)
Number	100	100
Male	43 (43)	44 (44)
Female	57 (57)	56 (56)
Age in years (mean \pm SD)	64.67 \pm 11.83	61.89 \pm 13.59
Primary tumor		
Lung	22 (22)	23 (23)
Gastrointestinal	19 (19)	24 (24)
Head and neck	11 (11)	7 (7)
Genitourinary	6 (6)	18 (18)
Breast	6 (6)	16 (16)
Unknown	6 (6)	8 (8)
Sarcoma	5 (5)	0 (0)
Hematologic	3 (3)	0 (0)
Other	22 (22)	4 (4)
Total	100	100
Days of admission to the Palliative Care Unit (mean \pm SD)	30 \pm 27	22 \pm 17

Values cited as *N* unless otherwise noted.

in 28 patients (28%). During 1992, 34 patients did not undergo the CAGE Assessment because of sedation or cognitive impairment (Table 2). Eighteen of the 66 patients who completed the CAGE (27%) were alcoholic. All 34 patients who could not complete the CAGE Questionnaire and their families underwent multidisciplinary assessment: six of these patients (17%) were found to be alcoholics.

A review of the previous inpatient and/or outpatient chart showed that, of the patients diagnosed as alcoholics, 9/28 (32%) diagnosed during 1989, and 8/24 (33%) diagnosed during 1992 had been previously diagnosed as alcoholics, respectively. None of the patients who were found not to be alcoholics during 1989 and 1992 had been previously diagnosed as alcoholics.

Pain intensity and opioid doses are summarized in Table 3. Alcoholic patients received a higher dose at admission ($P = 0.06$) and on Day 2 ($P = 0.03$) during 1992, but not during

1989. However, pain intensity during admission and maximal opioid dose were not different between alcoholics and nonalcoholics. The rest of the symptoms assessed did not show any significant difference between alcoholics and nonalcoholics.

Discussion

In this retrospective study, we assessed the frequency of alcoholism among terminally ill cancer patients admitted to the Palliative Care Unit. Our results suggest that both a multidisciplinary assessment and the CAGE Questionnaire identify a high prevalence of alcoholism in this population. An overall prevalence ranging between 12% and 30% has been reported for patients admitted to acute care hospitals.²

Our results confirm those of other groups regarding underdiagnosis of alcoholism.^{1,2} Only one-third of our alcoholic patients had had a documented diagnosis, even though all of them had undergone multiple hospital admissions and medical interventions. While the lack of documentation in the chart cannot be considered conclusive proof that the diagnosis was not made, it is clear that this diagnosis was not shared with the other specialists at the time of referral of the patient.

Because of the tertiary referral nature of our program, it is possible that the prevalence of alcoholism may be higher among patients in whom severe symptom distress is present.

Table 2
Frequency of Diagnosis of Alcoholism

	1989 (%) ^a	1992 (%) ^b	<i>P</i> Value
Patients (<i>N</i>)	100	100	
Evaluable for assessment	100 (100)	66 (66)	
Diagnosis of alcoholism	28 (28)	18 (27)	0.9

^a Diagnosis made by multidisciplinary team following DSM III-R criteria (reference no. 7).

^b Diagnosis made according to CAGE Questionnaire.

Table 3
Pain Intensity and Opioid Dose

	1989 (N = 100)			1992 (N = 66)		
	Alcoholic (N = 28)	P value	Nonalcoholic (N = 72)	Alcoholic (N = 18)	P value	Nonalcoholic (N = 48)
MEDD admission	108±161	0.47	138±227	153±193	0.06	58± 80
MEDD day 2	208±325	0.46	271±227	183±198	0.03	70± 79
Maximum dose	443±650	0.66	510±751	187±176	0.99	187±276
Pain						
Day 1 a.m.	36± 26	0.75	34± 21	41± 27	0.45	36± 24
Day 1 p.m.	37± 28	0.93	37± 24	45± 23	0.02	32± 22
Day 2 a.m.	33± 24	0.87	33± 19	42± 23	0.15	32± 23
Day 2 p.m.	32± 23	0.82	34± 23	38± 29	0.51	34± 23
Day 7 a.m.	37± 22	0.99	37± 24	44± 23	0.10	38± 19
Day 7 p.m.	38± 24	0.41	33± 23	33± 26	0.75	30± 24

MEDD, mean equivalent daily dose.

This possibility should be addressed in future research.

Although, initially, alcoholic patients received a higher opioid dose during 1992, both pain and other symptoms were controlled well in both alcoholic and nonalcoholic patients, and the final opioid dose was not significantly different. The difference in maximal opioid dose between 1989 and 1992 for both alcoholics and nonalcoholics reflects the introduction of methadone as an analgesic during 1992, which resulted in a decrease in the overall daily opioid dose.^{12,13} This decrease is due to the fact that equianalgesic tables underestimate the analgesic potency of methadone.¹³

The analgesic outcomes should be interpreted with caution because, in this study, we were unable to control for the distribution of other important prognostic variables such as neuropathic pain, incidental pain, or somatization.^{14,15} The overall similar level of symptom control, however, suggests that, with an adequate multidisciplinary approach and adequate interpretation of the multidimensional nature of symptom distress, alcoholic patients can be controlled as well as nonalcoholic patients. In our series, when a patient was diagnosed as an alcoholic, intensive counseling was provided to reduce psychosocial suffering, reduce the possibility that somatization of that suffering will result in increased pain expression, and discourage the use of alcohol or opioids as a solution to psychosocial suffering. In previous experience by our group, when a multidisciplinary approach was not employed, alcoholic patients were found to

have significantly worse prognosis and pain management problems.^{15,16}

The CAGE Questionnaire is simple and, in the hands of relatively inexperienced physicians, the frequency of diagnosis of alcoholism was similar to the results of a multidisciplinary assessment by experienced staff. However, a significant percentage of patients were unable to complete the test because of sedation or confusion. In addition, the prevalence of alcoholism among those patients who were unable to complete the CAGE Questionnaire was similar to those who were able to complete the questionnaire. These results suggest that, in those cases in which the CAGE Questionnaire cannot be administered, the patient and family should still undergo assessment for the presence of alcoholism.

While perhaps the ideal design of this study would have been a prospective comparison between the CAGE Questionnaire and the multidisciplinary assessment, it was our opinion that the CAGE Questionnaire has already been adequately validated. In addition, ethical concerns relating to the blinding of the information of a potential CAGE positive patient for alcoholism and practical issues related to the blinding of the questionnaire prevented us from completing a prospective study. It is our impression, however, that both the CAGE and multidisciplinary assessment detect alcoholism in the same patients for two reasons: (a) the prevalence of alcoholism was very similar among the two patient groups; and (b) all 66 patients assessed with the CAGE system during 1992 also underwent multidisciplinary assessment, and in no case was it necessary to

change the CAGE diagnosis because of a discrepancy with the multidisciplinary assessment. However, we are not able to rule out that knowledge of the result of the CAGE could have influenced the diagnosis by the multidisciplinary team.

The CAGE Questionnaire might be an ideal tool for the assessment of alcoholism in outpatients, home-care populations, or small consult teams in areas where the expertise in palliative care may be lower. However, this questionnaire should be used as a screening tool, not a diagnostic tool. It is important that patients be formally interviewed by experienced clinicians after they have screened positive for alcoholism before the actual diagnosis of alcoholism is made.

We conclude that alcoholism is highly prevalent among symptomatic terminally ill cancer patients. While both the CAGE Questionnaire and a multidisciplinary assessment result in similar findings, the CAGE Questionnaire cannot be performed in a significant percentage of patients. A similar level of pain and symptom control can be achieved in alcoholic patients after appropriate detection and multidisciplinary management.

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Appendix 1

Addiction Assessment: The CAGE Questionnaire

1. Have you ever felt you should Cut down on your drinking?
2. Have people Annoyed you by criticizing your drinking?
3. Have you ever felt bad or Guilty about your drinking?
4. Have you ever had a drink first thing in the morning or to get rid of a hangover (Eye-opener)?