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Personality of Panic Disorder Alcohol Abusers

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Seventeen (28%) of 61 panic disorder patients in a drug treatment study were retrospectively found to have a history of alcoholism (none had abused alcohol in the past year), More men than women had a history of alcohol abuse ($p < .03$). Alcohol patients were less independent and less able to recognize appropriate social cues on personality testing. There was significant improvement in general anxiety for the drug treatment and nonalcoholic placebo group but not for the alcohol placebo group. This indicates a superior response to supportive therapy for general anxiety in the placebo group without an alcohol abuse history compared with the placebo group with an alcohol abuse history.

There has been little scientific investigation of the relationship between anxiety disorders and alcohol abuse and none examining differences in personality factors between those anxiety disorder patients with and without a history of alcohol abuse. There is evidence, however, for an overlap of alcohol abuse and anxiety disorders. Winokur and Holemon (1963), using criteria similar to that of DSM-III panic disorder, found that five (16%) of 31 patients showed signs of excessive drinking at the time of the interview. Four of these five had anxiety disorders before excessive alcohol intake. Woodruff *et al.* (1972) found that nine (15%) of 61 anxiety disorder patients in a psychiatric clinic had secondary alcoholism. Mullaney and Trippett (1979) reported that one third of their alcohol abuse population had clinically disabling agoraphobia or social phobia. Hesselbrock *et al.* (1985) found a lifetime history of phobia in 27% and panic disorder in 10% of a hospitalized alcoholic population. In his sample, alcohol abuse occurred subsequent to panic disorder in 63% of the men and 50% of the women. Smail *et al.* (1984) found that over half of their alcoholic inpatients had agoraphobia, social phobia, or both when last drinking. They found a relationship between severity of alcohol dependence and severity of phobic symptoms in male patients but not in female patients. There is also evidence of an association of the two disorders in family studies. Munjack and Moss (1981) found a difference in family history of alcoholism between agoraphobic and social phobic probands when compared with the miscellaneous specific phobia group. Crowe *et al.* (1980) reported an increase in alcohol abuse or dependence among relatives of anxiety neurotics but not in control subjects.

In sum, there is evidence for a subgroup of anxiety patients who are also alcohol abusers. This group of anxiety patients may have an increased genetic predisposition toward alcoholism. We hypothesized that this alcoholic subgroup would be less socially skillful and independent than a nonalcoholic group. This study examined how a history of alcohol abuse related to standardized personality measures and affected outcome in one treatment study.

Methods

Subjects and Treatment Schedule

Of the original 61 patients, information was available for the present study of 56. Of this group, 26 (46%) were men; the average age was 35.8 (±8.5) years. All were white. A review of charts and telephone screening sheets identified 17 with a past history of alcohol abuse; these 17 did not differ significantly from the rest of the group in mean age. There was a significant difference in the percentage of men, however. The alcohol group comprised 11 men (65%) and the nonalcoholic group, 16 men (25%) ($p < .03$).

Subjects from this study were drawn from a double-blind treatment study on the effects of alprazolam on panic disorders. There were 61 subjects in this original study. Subjects were recruited by newspaper advertisements and were given the Structured Clinical Interview for Diagnosis (SCID) (Spitzer and Williams, 1982) to assure that they met revised DSM-III criteria for panic disorder or agoraphobia. Patients who had active drug or alcohol abuse within the past year were excluded from the study, as were patients with a diagnosis of schizophrenia or obsessive-compulsive disorder, a history of mania, or depression predating or predominating panic attacks. All those who qualified and were willing to participate were enrolled in the study. This was approximately 90% of those qualifying to enter. Those accepted were randomly assigned to either placebo or alprazolam treatment. Half

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of the subjects in the study received placebo and the other half, alprazolam (mean dose, 5.6 mg daily). Patients were not permitted to take other antianxiety medications (benzodiazepines, monoamine oxidase inhibitors, beta-blockers, or tricyclic antidepressants) during the course of the study. Dosage of alprazolam was adjusted during the study between 1 and 10 mg a day, adjusted to the point at which there was maximal reduction of panic symptoms and minimal side effects.

The 60 patients were studied weekly for the first 4 weeks and then every other week for the next 4 weeks. In follow-up visits, the patient would describe his or her difficulties with panic disorder to a research assistant and a physician. Quite often these descriptions included personal details or life problems. During these visits patients were taught more about their disorder, medication was adjusted, and patients were actively encouraged to enter phobic situations. Visits lasted from 30 minutes to one hour. No formal psychotherapy was given during visits.

Instruments

At baseline (*i.e.*, after 1 week off of all antianxiety medication) subjects were given the Guilford-Zimmerman Temperament Survey (Guilford *et al.*, 1976), Interpersonal Dependency Inventory (IDI) (Hirschfeld *et al.*, 1977), Hamilton Anxiety Scale, Sheehan Patient-Rated Anxiety Scale, Physician Global Improvement Scale, and the patient-rated Clinical Global Improvement Scale. The Guilford-Zimmerman is a self-report, extensively validated, measure of normal personality traits with good reliability and validity. It has been used in both normal and psychiatric populations. The IDI is a standardized measure of dependency. It is also a self-report instrument. It has three subscales that have been validated on one population and cross-validated on a second. These two personality measures were selected for ease of administration and for their combined coverage of a large number of personality traits. Both the Hamilton and the Sheehan Scales are measures of state anxiety.

Analysis

At baseline the group with a history of alcohol abuse was compared with the nonalcohol abuse group on personality measures, current age, marital status, age of onset, age of first psychiatric treatment, average ounces of alcoholic beverages consumed the day before the onset of the study, number of major and minor panic attacks at baseline week, age of onset of panic symptoms, whether panic disorder caused occupational difficulties, associated psychiatric diagnoses of agoraphobia and depression, anxiety, and global improvement scales.

Personality measures were performed at baseline when anxiety was high and could possibly affect measures. As a check on this, personality measures that were significantly different between groups were checked by referring to specific analyses in a previous paper (Reich *et al.*, 1986) to determine whether they were affected by anxiety. For those measures not previously reported, an analysis identical to that of Reich *et al.* was performed to determine whether they were affected by state anxiety.

To determine response to treatment the population was divided into four groups. These were: those who received active medication and had no history of alcohol abuse, those who received active medication and who had a history of alcohol abuse, those who received placebo and had a history of alcohol abuse, and those who received placebo and had no history of alcohol abuse. Using a 2×2 design, medication/placebo group by history of alcohol abuse, each subject was assigned to one of the four groups. The change for each group from week 1 to week 6 was determined using their Hamilton and Sheehan scores on anxiety and their global improvement scores. Comparison was by two-way analysis of variance.

Week 6 instead of week 8 was chosen for analysis for two reasons. First, there were a greater number of subjects with Hamilton scores at week 6 than 8. Six patients who dropped out were contacted for Hamiltons at week 6 (three from the placebo, no alcohol group and one from each remaining group) to give an N of 56 for Hamilton analyses. Second, there were no significant differences between groups in mean number of visits at week 6, whereas there were at week 8.

Of the 61 subjects completing at least 3 weeks, 11 had dropped out by week 6, eight from the placebo, no alcohol group, and one from each other group. In order to determine whether sicker placebo patients were dropping out, the eight dropouts in the placebo, no alcohol group were compared with non-dropouts in the same group on the Hamilton and Sheehan anxiety scales at week 3.

Results

On the baseline personality tests there were two significant differences. The autonomy scale of the IDI was 24.38 (5.44) for the alcoholic and 29.49 (7.43) for the nonalcoholic group ($p < .02$). The Guilford-Zimmerman Carelessness scale was 2.41 (2.83) for the alcoholic group and 4.75 (3.07) for the nonalcoholic group ($p < .01$). A lower IDI autonomy score indicates less independence, whereas a lower Guilford-Zimmerman Carelessness score means less awareness of appropriate social cues. The autonomy scale in previous research was not found to be affected by anxiety (Reich *et al.*, 1986). A replication of that analysis for

the Carelessness scale demonstrated that it, too, was not significantly affected by anxiety.

Baseline consumption of mean ounces of alcoholic beverages the day before study entry was higher for the alcoholic than nonalcoholic group, but the difference was not significant. There were no baseline differences in current age, marital status, age of onset, age of first psychiatric treatment, number of major or minor panic attacks, occupational difficulties, associated depression or agoraphobia, and Hamilton or Sheehan anxiety scores.

Hamilton anxiety scores and standard deviations at baseline were 19.65 (7.14) for the alcoholic and 20.53 (7.20) for the nonalcoholic groups, respectively. The changes in Hamilton anxiety scores between weeks 1 and 6 are shown in Table 1. Hamiltons were run both with and without the six added dropouts. As the results were identical, the larger group ($N = 56$) is reported here. There were no significant differences in the mean number of study visits in the different groups. When sex is added as the first term of the model (thereby removing its effect on Hamilton score changes from subsequent analyses) the results of Table 1 were unchanged. This indicates that sex was not a major contributing factor to the outcome. All groups except the alcoholic group not receiving drug treatment showed a significant decline. The Bonferroni multiple comparison procedure (Netter and Wasserman, 1974) indicated that the placebo, history of alcohol abuse group was significantly different from the three other groups ($p < .001$). The three remaining groups were not significantly different from each other. In the analysis of variance both history of alcohol abuse and drug effect are significant ($p < .0002$ and $p < .01$). In addition, there was a significant drug by alcohol history effect ($p < .04$) indicating that patients with a history of alcohol abuse and placebo treatment do worse than one would otherwise expect. When alcohol abuse and drug effect are put into the model alone, the partial F test (11.12 alcohol, 7.06 drug) indicates that history of alcoholism may be responsible for as much of the variance as drug effect.

TABLE 1

Changes in Hamilton Anxiety Scores from Week 1 to Week 6 for Subjects with and without Active Drug Treatment by History of Alcoholism[a]

Group	N	$\bar{X}$ Change	p
No drug treatment, no history of alcohol abuse	16	−10.4	.0001
No drug treatment, history of alcohol abuse	10	.1	NS
Drug treatment, no history of alcohol abuse	23	−12.8	.0001
Drug treatment, history of alcohol abuse	7	−10.6	.0035

[a] Analysis of variance was used to perform statistical tests.

The decline in the Sheehan self-rated anxiety score between weeks 1 and 6 was similar; the medication, alcohol group was 32.2 (20.19); the medication, no alcohol group was 34.28 (19.72); the placebo, no alcohol group was 19.33 (18.30); and the placebo, alcohol group was 7.67 (20.18). The first three groups were significantly different from the last ($p < .05$) but not from each other. There were no interaction effects. As in the Hamilton results the variable sex did not change the outcome.

The physician and patient global self-report scales were significantly different between treatment and placebo groups ($p < .005$ and $p < .005$, respectively) but did not discriminate between alcoholic and nonalcoholic groups. A more complete description of the differences between the alprazolam and placebo groups will be given elsewhere.

In the week 3 scores there were no significant differences in the placebo, no alcohol non-dropouts ($N = 13$) and the placebo, no alcohol dropouts ($N = 8$). Their scores on the Hamilton were 17.9 ± 11.4 (SD) and 17.1 ± 5.7, and for the Sheehan, 37.1 ± 26.3 and 43.4 ± 21.0 for the non-dropouts and dropouts, respectively. These findings indicate that differences between the two groups were not due to more severely ill patients dropping out of one group and thereby creating group differences in severity of illness.

Discussion

This study produced three findings. First, a high level of alcohol abuse by history (28%) in a panic disorder population. Second, measurable personality differences between panic disorder patients with and without a history of alcohol abuse. Third, the lack of response of alcoholic panic patients to nonspecific supportive therapy when generalized anxiety is used as the outcome criterion.

The 28% of patients with a history of alcoholism appears reasonable in light of previous findings. It is intermediate between the Hesselbrock *et al.* (1985) and Smail *et al.* (1984) percentages of phobia found in alcoholic populations—27% and 50%, respectively. It is higher than Winokur and Holemon's 1963 finding of 16%. However, their figure was a point prevalence and not a lifetime incidence finding. Point prevalence findings would be expected to be lower than lifetime. Although higher than the Woodruff *et al.* (1972) finding, Woodruff used more stringent diagnostic criteria. He required that anxiety disorder symptoms precede any other psychiatric symptoms for at least a year.

We have previously reported that state anxiety can change some personality measures (Reich *et al.*, 1986).

However, in this study, there were no group differences on the Hamilton anxiety scores at baseline and we have evidence that the specific personality measures that were significantly different were ones that were not affected by anxiety. Therefore, these measures can be taken as true personality differences. The IDI autonomy scale is scored high for people with preferences for independent behavior. Mean scores for normal subjects are approximately 29, with male subjects tending to score a point or two higher than female subjects. As such, our nonalcoholic sample appears to be closer to normal ($\bar{X} = 29.49$) than the alcoholic ($\bar{X} = 24.38$). This difference would be in the expected direction of nonalcoholics showing a preference for independent activity. The finding is even stronger because male subjects normally score significantly higher on this scale and the alcoholic history group had significantly more men. All other things being equal, we would expect the alcohol group to score higher than the nonalcoholic group, because of the sex ratio.

The Guilford-Zimmerman Carelessness Scale is one that is found elevated in severely ill patients and has questions that are designed so that the correct answer will be obvious (Guilford *et al.*, 1976). Because the group with a history of alcohol abuse was no different from the no alcohol group at baseline on global and anxiety scores (*i.e.*, group members were not more severely ill) the depressed scores in the alcohol group most likely represent a relative lack of ability to recognize and respond to social cues contained in the questions.

Our personality findings in panic patients are consistent with Cloninger's (1986) findings for a subgroup of alcohol patients. He found a subgroup of alcoholic patients with poorer outcome who were less independent and felt less socially effective and in control of their lives. Although his specific personality measures were different from ours, the general results are in the same direction.

Both anxiety measures show improvement for the placebo, no alcohol *vs.* the placebo, alcohol group, with the results being stronger in the Hamilton. This result is not due to differences in mean number of visits. The effect does appear to be specific for general anxiety, however, as global improvement scores do not discriminate between these two groups. The differences in results of these two measures are best explained by examining what each test measured. The global improvement scores were strongly tied to the presence or absence of panic attacks—the major target symptom of the original drug treatment study. The Hamilton and Sheehan Anxiety Scales were measures of general anxiety occurring between panic attacks. The most parsimonious explanation is that nonspecific supportive treatment without alprazolam is not effective in reducing intercurrent general anxiety in patients with a history of alcohol abuse. It was also not effective in reducing panic attacks.

Putting the results of the personality and anxiety tests and outcome together we get the following picture. Panic patients with a history of alcohol abuse are less independent and have difficulty in determining obviously appropriate social cues. As a result their general anxiety level is not responsive to supportive therapy, although it is to appropriate medication.

There are some methodological limitations to this study. As more patients dropped out of the nonalcohol than the placebo, alcohol group, there is always the possibility that sicker patients dropped out, creating the later findings. However, our measures for the last period that all were in the study (week 3) do not show any differences in mean anxiety scores between dropouts and nondropouts in the placebo, no alcohol group. Often, studies use endpoint analysis (comparing scores for subjects' last period in the study) in order to control for dropout effects. In this study, that would have created a situation with a significantly greater mean number of visits in the placebo, alcohol compared with the placebo, no alcohol group. This is an unacceptable confounder when the effects of patient-physician contact are being examined. It is possible that postadmission drinking status could have affected the results. This is somewhat mitigated in this study in that no participants in the study were alcohol dependent during the study and because the mean ounces of alcoholic beverages consumed by the two groups were not significantly different; however, it cannot be totally ruled out as a possible confounder.

It must be remembered that this is a special alcoholic population in that all had panic disorder, all had no history of alcohol abuse in the past year, and in most panic patients with alcohol abuse the abuse develops after the onset of panic disorder. As such, these results may not generalize to nonpanic alcohol abuse groups. Certainly, our findings need to be replicated by independent researchers. However, if confirmed, they would be a relative contraindication to extensive counseling for intercurrent anxiety in panic patients with a history of alcohol abuse.

Conclusion

There are three findings in this report. The first is that a large subgroup of panic patients also has a lifetime history of alcohol abuse. The percentage was 28% for our study and this is consistent with previous findings (Hesselbrock *et al.*, 1985; Smail *et al*, 1984; Woodruff *et al.*, 1972). The second finding is that alcoholics are less independent and aware of appropriate social cues. This is supported by our findings of

lower scores for the alcohol group for the Autonomy Scale of the IDI and Carelessness Scale of the Guilford-Zimmerman. These findings are consistent with the personality findings of Cloninger (1986) in alcoholic subgroups. The third finding is that, in terms of general anxiety as measured by the Hamilton and Sheehan anxiety scores, patients who are not in drug treatment who receive nonspecific supportive therapy do significantly better if they do not have a history of alcohol abuse.

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