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## ORIGINAL RESEARCH

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### IMPACT OF ALCOHOL INTOXICATION AND WITHDRAWAL SYNDROME ON SOCIAL PHOBIA AND PANIC DISORDER IN ALCOHOLIC INPATIENTS

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**PURPOSE:** To investigate the impact of alcohol intoxication and withdrawal on the course of social phobia and panic disorder.

**METHOD:** A group of 41 alcoholic inpatients undergoing detoxification therapy were interviewed using the SCID-I (DSM-IV) and questions to detect fluctuations in the course of social phobia and panic disorder as a function of the different phases in alcohol dependence (intoxication, withdrawal, and lucid interval).

**RESULTS:** Only 1 (2.4%) patient presented panic disorder throughout life, and 9 (21.9%) had panic attacks during alcohol intoxication or during the withdrawal syndrome. Sixteen (39%) alcoholic patients showed social phobia with onset prior to drug use. However, drinking eventually became unable to alleviate social phobia symptoms or worsened such symptoms in 31.2% of social-phobic patients. While patients with social phobia reported a significant improvement in psychiatric symptoms during alcohol intoxication, patients experiencing panic attacks worsened significantly during intoxication. In the withdrawal phase, patients with social phobia tended to have more and more intense phobic symptoms.

**CONCLUSION:** Our findings indicate that the impact of alcohol intoxication is different for social phobia as compared to panic disorder, at first decreasing the social-phobic symptoms but later aggravating them. In panic disorder, the impact of intoxication by alcohol is more harmful, at least in the short term.

**KEY WORDS:** Social phobia. Panic disorder. Intoxication. Withdrawal. Alcohol abuse.

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Alcohol-dependent patients have a higher prevalence of anxiety disorders than the general population. On the other hand, patients with anxiety disorders have higher prevalence of abuse and/or dependence on alcohol and other drugs than the general population.<sup>1</sup> The order of emergence of these comorbidities, however, is not clear. One of the reasons for this may be the existence of different clinical syndromes comprising anxiety disorder.

Several studies have shown that there is a strong association between alcohol abuse and social phobia and a high frequency of alcoholism among social phobic patients.<sup>2-16</sup> Patients

with social phobia have twice as many alcohol-related problems as those who are not phobic, and individuals with drinking-related disorders are 9 times more likely to have social phobia than the general population.<sup>16,17</sup> There is, as well, a high rate of panic-related disorders among alcoholics,<sup>18-21</sup> and sev-

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eral investigators have found high rates of alcohol abuse among patients with panic disorder.<sup>12,22,23</sup>

The chronological relationship between panic disorder or social phobia and alcohol dependence is controversial, with some studies showing that panic attacks precede the abuse and/or alcohol dependence in more than 50% of the patients,<sup>11,24</sup> while in other studies, panic attacks are detected following abuse and/or alcohol addiction.<sup>19,25,26,27</sup> On the other hand, social phobia typically precedes problems with alcohol,<sup>1</sup> predisposing the affected individuals to a higher vulnerability to addictive disorders.<sup>28,29</sup>

In this sense, drug use may be a form of self-medication, but few studies report the impact of alcohol intoxication or alcohol withdrawal on the clinical course of these anxiety disorders. Thus, we have investigated the comorbidity of panic disorder or social phobia and alcohol addiction concerning the frequency and order of onset of the different disorders, ie,

the time relationship between the beginning of the anxiety disorder and the emergence of alcohol dependence, with the objective of comparing the effect of the phases of alcohol intoxication and withdrawal on the symptoms of social phobia and panic disorder.

**METHOD**

Forty-nine inpatients undergoing treatment of alcohol dependence in a psychiatric clinic in Porto Alegre were consecutively examined during a period of 8 months. The following exclusion criteria were used: psychotic symptoms, including delusions or hallucinations; schizophrenia; bipolar disorder, mental retardation; and confusional states. Eight patients were thus excluded, and the final sample comprised 41 patients.

Patients fulfilled the DSM-IV diagnostic criteria for alcohol dependence as well as those of CID-10. All patients were administered the SCID-I, a semi-structured interview based on APA-1994 DSM-IV, to determine the presence of panic disorder and social phobia. In addition, questions were formulated to describe the order of onset for the different comorbidities with respect to drinking to determine if there was an attempt at self-medication, and the effect of drinking or withdrawal on the symptoms of social phobia or panic disorder was assessed. Patients were interviewed after being in the hospital and undergoing withdrawal from any drug for at least 7 days.

The association between categorical variables was assessed using the chi-square test or the Fisher's exact test when the former did not meet the necessary demands. Results were generated with the help of the statistical package SPSS (Statistical Package for the Social Sciences) for Windows. The results were considered significant at  $P < .05$ .

This study was approved by the Research Ethics Board of the clinic, and all participants gave their informed consent in written form.

**RESULTS**

Table 1 shows the clinical and sociodemographic characteristics of the participants. As can be seen, most of the patients of the sample completed high school and were male, married, and working. While 21 patients (51.2%) were dependent on alcohol, only 20 patients (48.8%) used multiple drugs. Table 2 lists the types of drugs used and the number of patients who had anxiety symptoms. Among patients using multiple drugs,

**Table 1 - Clinical and sociodemographic characteristics of the alcoholic inpatients.**

Variable	Number
<b>Sex</b>	
male	35 (85.4 %)
female	6 (14.6 %)
<b>Marital status</b>	
married	17 (41.4 %)
single	15 (36.6 %)
divorced	2 (4.9 %)
separated	6 (14.6 %)
widowed	1 (2.4 %)
<b>Schooling</b>	
elementary school (complete or incomplete)	10 (24.4 %)
high school (complete or incomplete)	21 (51.2 %)
university (complete or incomplete)	10 (24.4 %)
<b>Occupational status</b>	
working	26 (63.4%)
not working	15 (36.6%)
<b>Age (mean ± SD)</b>	34.9 ± 12.3
<b>Number of hospitalizations (mean ± SD)</b>	2.9 ± 2.45

**Table 2 - Drugs used and anxiety disorders among alcoholic inpatients being treated for alcohol dependence.**

Type of drug	Number of patients	Patients with panic attacks/ disorder	Patients with social phobia	Patients without panic attacks/ disorder or social phobia
alcohol	21(51.2 %)	3	9	11
alcohol, marijuana, and cocaine	10 (24.4 %)	6	5	1
alcohol and cocaine	8 (19.5 %)	1	2	6
alcohol and marijuana	1 (2.4 %)	0	0	1
alcohol and benzodiazepine	1 (2.4 %)	0	0	1

18 (43.9%) used cocaine, 11 (26.8%) marijuana, and 1 (2.4%) benzodiazepines, but no differences were detected between the drugs used and the diagnoses of anxiety disorders.

### Occurrence of Panic Disorder

Although 10 patients reported having panic attacks (24.4%), only 1 (2.4%) of these patients actually had panic disorder. Among the 9 patients (21.9%) who did not have panic disorder, the attacks occurred during intoxication or as part of the withdrawal syndrome. Panic attacks were not reported to occur in other than these 2 situations. Of the 10 patients who presented panic attacks, 7 (70%) had attacks in the intoxication phase and 6 (60%) during alcohol withdrawal. Therefore only 1 patient in the sample suffered from panic disorder, and 21.9% had panic-like symptoms, having attacks secondarily to the use of alcohol (Table 3).

### Occurrence of Social Phobia

Of the 41 patients interviewed, 16 (39%) had social phobia. Among these patients, social phobia started before the onset of alcohol dependence. Con-

cerning the impact of drinking on social phobic symptoms, 11 (68.7%) patients reported improvement in social phobia during intoxication, while the other 31.2% did not notice this effect. There was a worsening of social phobia during the withdrawal from alcohol in all these patients, and they presented social-phobic symptoms again after a prolonged period of alcohol withdrawal. (Table 3).

In the case of patients for whom drinking reduced social phobia, there was no development of tolerance to these effects in the intoxication phase. These patients reported maintenance of the benefit of drinking for social phobia, with improvement in the social phobia when they were intoxicated. Of these patients, 4 mentioned that they deliberately drank to alleviate phobic symptoms. The following case illustrates this point:

V.R., 24 years of age, male, single, incomplete high school, military

The patient reported having phobic symptoms since childhood. He started drinking harmfully at the age of 17, which increased over the years. After 7 years of drinking, he is dependent on alcohol. He reports improvement in social phobia when he drinks, and it worsens during with-

drawal. Thus, the patient suffers from social phobia preceding alcohol use. He uses alcohol as a form of self-medication to reduce phobia, and even today, he still derives benefits from this use.

Another 31.2% of this group of social-phobic patients who currently get worse or do not experience any benefit during the intoxication phase have developed tolerance to the “therapeutic” effects of alcohol. They reported having lost the beneficial effects of alcohol on social phobia, the symptoms of which used to improve during the early stages of drinking. Today, 3 (18.7%) of these patients experience worsening of social phobia when they drink, and 2 (12.5%) patients noticed that they have lost the beneficial effect of drinking on social phobia but drink anyway, even being aware of their worsening social phobia. The following case illustrates these cases:

G.B., a 48-year-old male, married, incomplete high school, retired bank clerk.

The patient reported having begun to notice phobic symptoms at 12 years of age. He is now dependent on alcohol and reported having started to drink more heavily at 17 years of age. He began to have panic attacks 18 months before the interview, always when intoxicated with alcohol. The patient thus has had panic attacks induced by alcohol, but he does not fulfill the criteria for panic disorder. He suffers from social phobia, which started before he began drinking and improved as he drank, with phobic symptoms returning during alcohol abstinence. Today, however, drinking does not reduce his phobic symptoms as effectively as it used to.

### Comparison of drug effects on the symptoms of social phobia and panic

According to the patients’ reports, the impact of alcohol intoxication dif-

**Table 3** - Effects of drinking on anxiety symptoms in alcoholic inpatients.

	Panic attacks/disorder	Social phobia
<b>Frequency</b>	10 (24.4 %)	16 (39 %)
<b>Chronological relation</b>		
onset before drug use	1 (10%)	16 (100 %)
onset after drug use	9 (90 %)	0 (0 %)
<b>During intoxication</b>		
improves*	0 (0 %)	11 (68.7 %)
worsens*	7 (70 %)	3 (18.7 %)
not affected	3 (30 %)	2 (12.5 %)
<b>During withdrawal</b>		
improves	0 (0 %)	0 (0 %)
worsens*	6 (60 %)	16 (100 %)
not affected	4 (40 %)	0 (0 %)

\* Denotes significant differences ( $P < .05$ ) between patients with panic symptoms and those with social phobia

ferred in individuals with social phobia or panic, with statistically significant differences occurring when these 2 groups of patients were compared. While 68.7% of patients with social phobia reported improvement in their symptoms during heavy drinking, no patient with panic reported alleviation of symptoms during the intoxication period (Fisher's exact test,  $P = 0.001$ ). As for the worsening of anxiety during the intoxication phase, the relationship was an opposite one as well: 70% of patients with panic reported worsening of symptoms versus 18.7% of social-phobic patients (Fisher's exact test;  $P = 0.015$ ). Thus, the patients with social phobia showed a significant improvement in the alcohol intoxication phase as compared to patients with panic attacks, who worsened significantly.

While 100% of patients with social phobia reported worsening of symptoms during the withdrawal phase, 60% of patients with panic reported intensification of panic attacks (Fisher's exact test,  $P = 0.014$ ). Thus, the patients with social phobia had a statistically significant worsening during withdrawal as compared to the patients with panic attacks. None of the patients with phobia or panic reported improvement of anxiety symptoms during withdrawal (Table 3).

## DISCUSSION

In this sample, panic attacks tended to occur following the abuse of alcohol. While this finding is in agreement with some studies,<sup>19,25-27</sup> it is in disagreement with others<sup>11,24</sup> which show that panic disorder can precede the abuse and/or dependence on alcohol in more than 50% of the patients. This difference can be ascribed to the characteristics of our sample, composed mostly of male alcoholic inpatients. Females accounted for only

15% of the total patients in this sample. Previous research shows that panic disorder usually begins before alcohol dependence among females, and that among males, alcoholism and use of other drugs tend to precede an anxiety disorder, triggering panic.<sup>24,30</sup> This difference between males and females may have clinical implications.

On the other hand, few previous studies have found such a low percentage of panic disorder as this one (2.4%) in samples of alcohol-dependent patients. This may be because most studies classify all patients that have panic attacks in the category of panic disorder, including when those attacks are secondary to drinking. If we use this definition in our study, the frequency of panic disorder would be close to that found in the literature—around 24 % of patients.<sup>18-21</sup>

The percentage of social-phobic patients was above one third of this sample. This seems like a high rate, but it is close to those found in other investigations,<sup>8,9</sup> and it indicates a high prevalence of comorbidity of social phobia with alcohol dependence. In all 16 patients, social phobia preceded alcohol dependence, a finding that is consistent with the hypothesis of self-medication, i.e. the use of alcohol to “treat” social phobia.<sup>1</sup> Anxiety disorders such as phobias seem to have an early onset, predisposing individuals to addictive disorders,<sup>29</sup> with much evidence that alcohol abuse is an attempt to self-medicate in a considerable number of social-phobic individuals.<sup>31</sup>

These data are important for future evaluations concerning the treatment of anxiety disorders and alcoholism. There is evidence that patients with a dual diagnosis of alcoholism and any mental disorder have different therapeutic needs than patients with a single diagnosis,<sup>32</sup> because they have a lower response rates to the therapy for their mental disorder as well as more

severe psychiatric symptoms. When social phobia is associated with abuse/dependence on alcohol, the effectiveness of treatment with tranylcypromine is decreased,<sup>33</sup> and there is an increase in suicide attempts in patients with panic disorder associated with alcohol abuse.<sup>34</sup>

A new approach in this study was the attempt to describe the effect of drug use on anxiety symptoms (panic disorder and social phobia), during the intoxication and withdrawal phases and during lucid intervals, or prolonged periods without drinking, in alcoholic inpatients. One of the most significant findings was that in a few cases, drinking had eventually lost its ability to reduce the social-phobic symptoms, characterized by the development of tolerance and even worsening these phobic symptoms. The patients who developed tolerance continued to drink even after having lost the benefit on social phobia initially sought in drinking, since they had developed dependence. However, different courses of the phobia-drinking relationship can be seen in this group of patients. A few phobic patients initially improved with drinking, but after years of drinking they became worse during alcohol intoxication. This finding supports the existence of a “paradoxical” phenomenon after medium/long-term alcohol use. Although the patients in this group whose social phobia got worse with drinking were few, the incidence might be higher in cases of more prolonged dependence. Therefore, the impact of drinking on social phobia seems to have 2 phases: an early, short-term phase, which leads to the alleviation of social phobic symptoms, followed by a second phase after medium or long-term alcohol use, which is associated with worsening of social-phobic symptoms as compared to baseline. This characteristic is not unique to drinking but is also characteristic of a group of

GABAergic pharmacological agents, since benzodiazepines can, in the long run, aggravate the symptoms of social phobia.<sup>35</sup> As yet, it is unclear whether these retrospective reports point to the notion that heavy drinking aggravates social phobia in the long run. The usual notion is that drinking would be harmful because of the risk of abuse and/or dependence on alcohol. It can now be added that the use or abuse of alcoholic drinks by social-phobic pa-

tients can eventually aggravate their social phobia, because alcohol can, after medium- or long-term use, have a negative impact on the course of social phobia. It should be stressed that this study has some limitations because of the small sample size. Thus, these findings must be supported by further studies carried out with larger sample sizes.

In conclusion, this study indicates that the impact of the use and/or depend-

ence on alcohol is different in social phobia as compared to panic. Phobic symptoms can initially be reduced but eventually worsen because of continuous alcohol use, something which does not happen with panic. On the other hand, the acute effects of alcohol intoxication are more deleterious in panic than in social phobia; however, during the withdrawal phase, patients with social phobia tend to get worse more often than patients with panic.

## RESUMO

TERRA MB e col. Impacto das fases de intoxicação e de abstinência de álcool sobre a fobia social e o transtorno de pânico em pacientes alcoolistas hospitalizados. **Rev. Hosp. Clín. Fac. Med. S. Paulo** 59(4):187-192, 2004.

**OBJETIVO:** Estudar o impacto das fases de intoxicação e de abstinência do uso de álcool sobre o curso da fobia social e do transtorno de pânico.

**MÉTODO:** Um grupo de 41 pacientes hospitalizados por dependência de álcool foi entrevistado com o SCID-I (DSM-IV), adicionado de perguntas para detectar as flutuações no curso da fobia social e do transtorno do pânico

em função das diferentes fases do uso da droga (intoxicação, abstinência e intervalo lúcido).

**RESULTADOS:** Apenas um (2,4%) paciente, apresentou transtorno de pânico ao longo da vida e nove (21,9%) tiveram ataques de pânico na intoxicação ou na síndrome de abstinência. Dezesesseis (39%) pacientes dependentes de álcool apresentavam fobia social, que iniciava-se antes de começar o uso de bebidas alcoólicas. No entanto, com o tempo, o álcool perdeu o efeito de aliviar os sintomas da fobia social ou piorou estes sintomas em 31,2% dos pacientes fóbicos sociais. Enquanto os pacientes com fobia social relataram uma melhora significativa dos sintomas psiquiátricos na fase

de intoxicação, os pacientes com pânico pioraram significativamente na fase de intoxicação. Na fase de abstinência, os pacientes com fobia social tenderam a piorar com maior frequência.

**CONCLUSÃO:** Nossos achados indicam que o impacto do álcool, na intoxicação, é diferente na fobia social, quando comparado com o pânico, diminuindo os sintomas fóbicos sociais a princípio e agravando-os posteriormente. No transtorno de pânico, o impacto da intoxicação pelo álcool é mais deletério, ao menos a curto prazo.

**UNITERMOS:** Fobia social. Transtorno de pânico. Intoxicação. Abstinência. Abuso de álcool.

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