Study of Impulse-Control Disorders Among Alcohol-Dependent Patients

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Background: Impulse-control disorders (ICDs) include intermittent explosive disorder, kleptomania, trichotillomania, pyromania, and pathological gambling. Several studies have suggested that the incidence of pathological gambling is substantially higher in alcoholics than in the general population. The rate of co-occurrence of other ICDs and alcohol dependence has never been systematically investigated. In our study, we assessed the frequency of all ICDs in a population of alcohol-dependent patients. We also examined the possibility that the presence of an ICD can correspond to earlier onset and more severe forms of alcoholism, which have a greater association with antisocial personality.

Method: All patients hospitalized at our psychiatric unit for detoxification between January and August 1997 met DSM-IV criteria for alcohol dependence and were included in this study. Diagnosis of alcohol dependence was confirmed with the Mini-International Neuropsychiatric Interview. ICDs were investigated using the Minnesota Impulsive Disorders Interview. All patients completed the Michigan Alcoholism Screening Test.

Results: Among the 79 patients included in the study, 30 (38.0%) met criteria for an ICD. Included in the study were 19 cases of intermittent explosive disorder, 7 cases of pathological gambling, 3 cases of kleptomania, and 1 case of trichotillomania. Patients with co-occurring ICDs were significantly younger than patients without an ICD (mean age = 40.7 vs. 44.5 years; p = .03). Patients with co-occurring pathological gambling were significantly younger at the onset of alcohol dependence than patients without ICDs (mean age = 19.5 vs. 25.9 years; p = .0008). Pathological gamblers had significantly longer duration of alcohol dependence compared with patients without ICDs (26.0 vs. 17.9 years; p = .02). Patients with co-occurring intermittent explosive disorder had the shortest duration of alcohol dependence of all patients (9.9 years). Prevalence of antisocial personality disorder was no different in patients with or without co-occurring ICDs.

Conclusion: Thirty-eight percent of the alcohol-dependent patients studied presented with an ICD. Patients with ICDs were younger than those without an ICD. The presence of an ICD was not associated with a specific form of alcohol dependence or with antisocial personality. Co-occurrence of pathological gambling, however, was associated with lower age at onset of alcohol dependence, a higher number of detoxifications, and a longer duration of alcohol dependence than was absence of an ICD.

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The heterogenous group of disorders known as impulse-control disorders (ICDs) has been differentiated in the DSM classification. All of these pathologic conditions are characterized by the repetitive occurrence of impulsive behaviors. Other clinical characteristics of ICDs are failure to resist an impulse, drive, or temptation to perform some act harmful to oneself and/or others; an increasing sense of tension or excitement before acting out; and a sense of pleasure, gratification, or release at the time of committing the act or shortly thereafter. The pathologic behaviors included under the classification of ICDs are intermittent explosive disorder, kleptomania, trichotillomania, pyromania, and pathological gambling.[1]

Of particular interest is the interaction of ICDs with alcohol dependence. Both conditions have been conceptualized as addictive disorders,[2] and they share characteristic patterns of behavior such as impulsivity, craving, sensation seeking, and euphoria.[3] Several studies have provided data suggesting that the incidence of pathological gambling in patients with alcohol dependence is substantially higher than in the general population. Compared with an incidence of 1.4% in a New York study of a general population,[4] the prevalence of pathological gamblers among hospitalized substance abusers is reportedly 8 to 10 times this rate.[5] Lesieur and Heineman[5] studied pathological gambling among 100 alcohol- or drug-dependent adolescent inpatients (average age = 17 years). They found that 14% met diagnostic criteria for pathological gambling, and an additional 14% had gambling-related problems. The co-occurrence of the other ICDs (intermittent explosive disorder, kleptomania, trichotillomania, and pyromania) and alcohol dependence has never been studied systematically.

Alcohol-dependent patients presenting with impulsive behaviors may represent a subgroup of type 2 classification of alcoholics as defined by Cloninger.[6] The type 2 syndrome is characterized by the inability to abstain from

alcohol before the age of 25 years and traits characteristic of individuals who have antisocial personality disorder,[6] including irresponsibility and disregard for danger. Watson et al.[7] confirmed that early-onset alcohol-dependent patients presented more often with violence when drinking and with alcohol-related legal difficulties.

The present study was undertaken to consider 2 questions: (1) What is the prevalence of all ICDs in a sample of alcohol-dependent patients hospitalized for detoxification? (2) Do those alcohol-dependent patients with co-occurring ICDs have a greater likelihood of manifesting characteristics of alcohol dependence consistent with type 2 classification (e.g., lower age at onset of alcohol dependence, more frequent association of antisocial personality, and paternal history of alcohol dependence)?

Table 1. Sociodemographic Characteristics of Alcohol-Dependent Patients Without (ICD–) and With (ICD+) Impulse-Control Disorders[a]

		ICD+				
Characteristic	ICD–	PG	IED	Kl	Trich	Total ICD+
Patients, N (%)	49 (62.0)	7 (8.9)	19 (24.1)	3 (3.8)	1 (1.3)	30 (38.0)
Age, y						
Mean ± SD	44.5 ± 9.4	46.2 ± 4.7	39.0 ± 9.3[b]	41.0 ± 2.3	34 ± 0	40.7 ± 8.3[c]
Range	30–66	39–54	22–54	40–44	34	22–54
Sex ratio (M/F)	32/17	6/1	10/9	0/3	0/1	16/14
Married, N (%)[d]	21 (42.9)	2	8	1	0/0	11 (36.7)

[a]Abbreviations; IED = intermittent explosive disorder, Kl = kleptomania, PG = pathological gambling, Trich = trichotillomania.
[b]ICD– vs. IED: t = 2.171, df = 66, p = .03.
[c]ICD– vs. ICD+: t = 1.791, df = 77, p = .03.
[d]"Married" status denotes either married or having a live-in partner.

METHOD

To ensure confidentiality, all identifying data were removed from records reviewed by the researchers and all records were kept locked. The results were gathered from direct interviews. Patients consecutively admitted to an 8-bed psychiatric unit between January and August 1997 were invited to participate in the study. Study inclusion criteria were treatment enrollment (meeting of DSM-IV criteria for alcohol dependence required) and age of 18 years or older. All patients were simultaneously interviewed by a psychiatrist (M.L. or N.F.) and a psychologist (S.L.) during the first week of detoxification (detoxification treatment was with a benzodiazepine [diazepam, 10–30 mg/day] and thiamine).

We used structured interviews to assess alcohol dependence and ICDs. A structured psychiatric interview (the Mini-International Neuropsychiatric Interview [MINI])[8] was administered to all patients. This structured diagnostic interview allowed us to confirm alcohol abuse and dependence. In addition, all patients completed the Michigan Alcoholism Screening Test (MAST),[9] which assessed the severity of alcohol dependence. Diagnoses of ICDs (kleptomania, trichotillomania, intermittent explosive disorder, pyromania, and pathological gambling) were made based on DSM-IV criteria and results of a modified version of the Minnesota Impulsive Disorders Interview (MIDI).[10] The MIDI is a 36-item semistructured interview developed at the University of Minnesota that includes separate screening modules that use DSM-IV criteria for diagnosis of individual ICDs. Diagnosis of antisocial personality was made using DSM-IV criteria.

Continuous variables were compared between alcohol-dependent patients with and without co-occurring ICDs using unpaired 2-tailed t tests. For nonparametric data, differences in proportions were compared with the Fisher exact test with Yates correction. Statistical significance was determined at the .05 level of confidence.

RESULTS

The population studied included 79 patients, all of whom met DSM-IV criteria for alcohol dependence disorder. Mean ± SD age of the sample was 43.1 ± 9.2 years (range, 22–66 years). The population consisted of 48 men (61%) and 31 women (39%). Thirty-two patients (41%) were either married or had a live-in partner.

Thirty patients (38.0%) met criteria for both ICDs and alcohol dependence. This group included 19 cases of intermittent explosive disorder, 7 cases of pathological gambling, 3 cases of kleptomania, and 1 case of trichotillomania. No patient had co-occurring pyromania. None of the patients presented with an association of 2 or more ICDs. None of the patients had a co-occurring substance use disorder other than alcohol dependence.

The sociodemographic characteristics of patients with and without comorbid ICDs are presented in Table 1. Patients presenting with ICDs were significantly younger than patients without an ICD (mean age = 40.7 vs. 44.5 years; p = .03). There was no statistical difference between the characteristics of patients with and without ICDs in regard to sex ratio or marital status. Pathological gamblers, however, were more often men (6 men vs. 1 woman), and kleptomania was present only in women. Because of the small size of the population studied, statistical differences in regard to sex could not be determined.

Clinical characteristics of alcohol dependence are presented in Table 2. The patients with and without ICDs, as overall groups, did not differ with respect to severity or history of alcohol dependence. However, those with co-occurring pathological gambling did differ significantly from the group of patients without an ICD in other important ways.

Age at onset of alcohol dependence was lower in patients with co-occurring pathological gambling than in pa-

Table 2. Patterns of Alcohol Abuse, Family History, and Antisocial Personality[a]

Characteristic	ICD– (N = 49)	PG (N = 7)	IED (N = 19)	Kl (N = 3)	Trich (N = 1)	All ICD+ (N = 30)
Age at onset of alcohol dependence, y						
Mean ± SD	25.9 ± 9.9	19.5 ± 3.0[b]	27.8 ± 10.9	30.6 ± 2.0[c]	24 ± 0	26.0 ± 9.5
Range	16–58	16–25	16–47	29–33	24	15–47
Duration of alcoholism, y						
Mean ± SD	17.9 ± 10.8	26.0 ± 6.2[d]	9.9 ± 8.7[e]	10.6 ± 3.5	10 ± 0	13.7 ± 10.0
Range	0–37	20–36	0–35	7–14	10	0–36
No. of detoxifications						
Mean ± SD	1.7 ± 2.7	7.0 ± 6.2[f]	2.4 ± 2.2	2.3 ± 1.5	1 ± 0	5.5 ± 1.4
Range	0–12	2–20	0–6	1–4	1	0–80
MAST score						
Mean ± SD	32.7 ± 11.2	38.5 ± 5.4	28.5 ± 12.5	29.6 ± 5.0	30 ± 0	31.0 ± 11.0
Range	6–51	29–47	9–46	25–35	30	9–47
Antisocial personality, N (%)	9 (18.4)	2	1	0	0	3 (10.0)
Paternal history of alcohol dependence, N (%)	21 (42.9)	4	8	0	0	12 (40.0)

[a]Abbreviation: MAST = Michigan Alcohol Screening Test.
[b]ICD– vs. PG: alternate t = 3.49, df = 29, p = .0008.
[c]ICD– vs. Kl: alternate t = 2.53, df = 10, p = .014.
[d]ICD– vs. PG: t = 1.954, df = 54, p = .02.
[e]ICD– vs. IED: t = 2.92, df = 66, p = .004.
[f]ICD– vs. PG: alternate t = 2.16, df = 6, p = .03.

tients without an ICD (mean = 19.5 vs. 25.9 years; p = .0008). In patients presenting with kleptomania, the age at onset of alcohol dependence was higher than in patients without an ICD (mean = 30.6 vs. 25.9 years; p = .014). If all cases of ICDs are considered, no difference in age at onset is shown between the group with ICDs and the group without ICDs.

Duration of alcohol dependence was different according to the type of ICD. Pathological gamblers had significantly longer duration of alcohol dependence compared with patients without an ICD (26.0 vs. 17.9 years; p = .02). Patients presenting with intermittent explosive disorder had the shortest duration of alcohol dependence of all patients (9.9 years). Pathological gamblers had a higher mean number of detoxifications than patients without an ICD (7.0 vs. 1.7; p = .03). In addition, prevalence of antisocial personality disorder was no different in patients with and without an ICD. Paternal history of alcohol dependence was not more frequent in the group presenting with ICDs (see Table 2).

DISCUSSION

The discussion of our results is limited by the small number of patients assessed. Interpretations of our results are also limited by the fact that assessment was performed during the first week of detoxification and not after detoxification was completed. We chose to assess patients during the first week of treatment because a more tardive evaluation exposed a potential risk of missing the most impulsive patients, who are most prone to prematurely quit the detoxification cure. The population studied does not strictly reflect the general population of alcohol-dependent patients. The selection of subjects entering the hospital for detoxification may induce a selection bias. Another limitation of our study is the size of the population studied. We showed that pathological gambling was found more often in men (6 cases) than in women (1 case) and that kleptomania was found only in 3 women. Because of the size of our population, we failed to show a statistically significant gender difference among patients presenting with pathological gambling or kleptomania.

Our study was nevertheless the first to systematically evaluate the prevalence of all ICDs in a clinical sample of alcohol-dependent patients and to explore the clinical importance of age at onset of dependence, severity of dependence, and antisocial personality in alcohol-dependent patients with co-occurring ICDs. We used structured interviews to assess alcohol dependence and ICDs.

We found a frequency of 38.0% for all ICDs, the 2 most frequent diagnoses being intermittent explosive disorder and pathological gambling. The prevalence of pathological gambling (8.9%) in our population was lower than the rate of 14% reported by Lesieur and Heineman.[5] The 2 studies, however, involved different types of patients. Our study concerned adult alcohol-dependent patients, and the study by Lesieur and Heineman included adolescent inpatients presenting with alcohol and drug dependence. Their population probably consisted of subjects with greater impulsivity presenting with more behavioral dyscontrol. Concerning the other types of ICDs, no published results are available to allow for a further comparison.

Patients with co-occurring ICDs were younger than those without a co-occurring ICD. We did not find arguments to substantiate classifying the group of patients with ICDs as having an extreme form of type 2 alcoholism, according to the Cloninger[6] classification. Lower age

at onset of dependence was not found to be significantly associated with the presence of an ICD.

The group of patients with ICDs did not have higher MAST scores or a higher prevalence of antisocial personality. Pathological gamblers, however, had different characteristics. They were younger at the onset of alcohol dependence than patients without an ICD, and they had longer histories of addiction and a greater number of detoxifications. Our study does not allow us to formally state hypotheses about the results. We cannot, in fact, determine with our methodology what came first, ICDs or alcohol dependence. Only a prospective study might illuminate this aspect of the natural history of these 2 co-occurring disorders.

CONCLUSION

Our data emphasize the frequency of the association between ICDs and alcohol dependence. Thirty-eight percent of the alcohol-dependent patients presented with an ICD. Patients with co-occurring ICDs were younger. The presence of an ICD was not associated with more severe or earlier onset of alcohol dependence except in pathological gamblers, who were younger at onset of alcohol dependence, had undergone a greater number of detoxifications, and had a longer period of dependence than did patients without an ICD. Higher MAST scores and antisocial personality were not associated with any type of ICD. These results suggest that the group of alcoholic patients with ICDs, except pathological gamblers, were not different from the group of patients without an ICD in terms of clinical characteristics of dependence.

Drug name: diazepam (Valium and others).

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