Rate of Tardive Dyskinesia in Hospitalized Patients

TO THE EDITOR: In the era of typical antipsychotic medications, tardive dyskinesia was a common and often undiagnosed disorder (1). The newer atypical antipsychotic medications hold the promise of a lower prevalence of movement disorders. We conducted a study whose goal was to determine if this promise has translated from the systematic research to a naturalistic sample.

Evaluations were completed for 162 patients from Central State Hospital in Petersburg, Va. The sample consisted of chronically ill, treatment-resistant adult patients, most of whom had psychotic disorders (70%) or bipolar disorder (9%) based on DSM-IV criteria. The majority (94%) of patients were taking antipsychotic medication. Of this subset, 25% were taking a typical antipsychotic but not an atypical antipsychotic, 52% were taking an atypical antipsychotic but not a typical antipsychotic, and 23% were taking both. Each patient was rated with the Involuntary Movement Scale (2). The primary rater (D.E.R.) was trained by the developers of this scale and achieved a high level of reliability with respect to gold standard ratings (intraclass correlation coefficient [ICC]=0.96 for parkinsonism global rating, $p<0.001$; ICC=0.79 for dyskinesia global rating, $p<0.001$). A diagnosis of parkinsonism was defined as having a rating of 2 (mild) or higher on the global rating scale. Tardive dyskinesia was diagnosed by the criteria of Schooler and Kane (3).

Per hospital policy, almost all of these patients had a previous examination for dyskinesia by their attending physician with the Abnormal Involuntary Movement Scale (4). These data were used to compare the prevalence of diagnoses of tardive dyskinesia between the attending physicians and the authors of the current study.

Tardive dyskinesia was present in 40% of the patients (40% of the patients taking only typical antipsychotics, 39% of the patients taking only atypical antipsychotics, and 47% of the patients taking typical and atypical antipsychotics). Of the patients with tardive dyskinesia, 57% had not been diagnosed previously with tardive dyskinesia. Of the patients newly diagnosed with tardive dyskinesia, 48% were mildly ill, 48% were moderately ill, and 4% were severely ill.

For patients taking any antipsychotic medication, 49% had parkinsonism (67% of the patients taking only typical antipsychotics, 34% of the patients taking only atypical antipsychotics, and 68% of the patients taking typical and atypical antipsychotics). Parkinsonism was uncommonly mentioned as an adverse effect, and no rating scale was used by the attending physicians to assess parkinsonism.

A substantial number of patients had tardive dyskinesia or parkinsonism. The high prevalence of newly diagnosed cases of tardive dyskinesia suggests a continuing need for better identification of these disorders and the opportunity for further preventing or treating these disorders.

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Do Smokers Who Commit Suicide Have High Blood Levels of Nicotine?

TO THE EDITOR: Cigarette smoking is associated with a higher risk for suicide and attempted suicide (1, 2). In addition, an association between cigarette smoking and suicidal behavior across major psychiatric disorders may be related to lower brain serotonin function in smokers with depression (2). Unfortunately, no information is available concerning nicotine and cotinine levels in the body fluids of smokers who committed suicide.

We examined the nicotine and cotinine levels in the blood and urine of 36 forensic autopsy cases with no obvious putrefaction that were handled between October 2002 and March 2004. Our cases consisted of eight smokers who committed suicide (six men, 51–76 years of age, and two women, 54–79 years of age), eight smokers who did not commit suicide (seven men, 36–79 years of age, and one woman, 54 years of age), and 20 nonsmokers (15 men, 19–97 years of age, and five women, 62–82 years of age). One suicide case was present in the nonsmoking group. None of the suicide smokers consumed nicotine preparations or tobacco leaves.

Eight suicide smokers had high levels of nicotine and cotinine in their blood (mean=115 ng/ml, SD=49, and mean=405 ng/ml, SD=291, respectively) and urine (mean=1940 ng/ml, SD=2540, and mean=1170 ng/ml, SD=1570, respectively). In contrast, eight nonsuicide smokers had lower levels of nicotine and cotinine in their blood (mean=30.1 ng/ml, SD=17.7, and mean=122 ng/ml, SD=65, respectively) and urine (mean=383 ng/ml, SD=417, and mean=170 ng/ml, SD=86, respectively). Blood nicotine levels in our eight suicide smokers were significantly higher than in nonsuicide smokers ($t=4.61$, $df=14$, $p=0.0004$). Although urine nicotine level and blood and urine cotinine levels were higher in suicide than nonsuicide smokers, they did not achieve a level of statistical significance. In six of 20 nonsmokers, nicotine and/or cotinine originating from passive smoking were detected. Neither nicotine nor cotinine was detected in the remaining 14 cases.

Urae et al. (3) reported that habitual smokers with no psychiatric disorders who consumed 26 or more cigarettes per day had blood nicotine levels of 20.0–68.0 ng/ml (mean=35.2 ng/ml, N=34) in a free smoking experiment. Blood nicotine levels measured in our eight nonsuicide smokers were similar to their results.

Our data, although they are preliminary and limited in number, strongly suggest that a marked increase in cigarette smoking in persons with psychiatric disorders may be a sign of an imminent suicide attempt. Consequently, the smoking status of psychiatric patients may serve as a clinical sign of