

Buffalo metropolitan area of Erie County, NY, during 1 year from January 1, 2000, to December 31, 2000. Study investigators confirmed the diagnosis by individually reviewing medical records. We obtained temperature and precipitation data from the National Weather Service. Pollution data were obtained from the Environmental Protection Agency. Data were analyzed with  $\chi^2$  tests and linear regression using SAS software (version 9).

Results: We analyzed 2,462 patients with AICE during the study period. The highest, lowest, and median temperatures were 26°C, -16°C, and 10°C, respectively. Bivariate analysis shows a small, statistically significant increase in AICE on weekdays compared with weekend days ( $P=.0016$ ) and a significant increase in AICE as temperature increases ( $P=.0033$ ). Multivariate linear regression shows about 1 fewer event per day on weekends ( $P=.0029$ ) and a reduction of 0.4 events per day with each decrease in temperature of 10°C ( $P=.0037$ ). We found no statistically significant relationship between the incidence of AICE and precipitation, nitrogen dioxide, all oxides of nitrogen, sulfur dioxide, ozone, and particles less than 0.4  $\mu\text{m}$ .

Conclusion: There is a significant increase in the number of AICE patients admitted on weekdays compared with weekends in the study area. As temperature increases, the incidence of AICE increases significantly in the study population.

## 67 Prevalence and Outcomes of Occult Suicidality in a Multiethnic Emergency Department Population

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Study objectives: Because suicide completers frequently visit the emergency department (ED) for reasons other than suicide before their death, we sought to establish the prevalence of occult suicidality in patients seeking treatment for routine, nonpsychiatric problems in the ED.

Methods: A prospective cohort of waiting room patients recruited during random time blocks in a large, urban ED were screened with an anonymous, computerized mental health assessment for a tripartite construct of suicidality: passive ideation, frequent thoughts of death and being "better off dead"; active ideation, specific thoughts about self-harm; and serious intent, defined as an endorsement of the statement "I am planning to kill myself." Patients younger than 18 years, with mental status impairment, or with a psychologic chief complaint were excluded.

Results: Passive ideation was endorsed by 184 of 1,590 patients (11.6%), whereas 143 (8.4%) patients acknowledged active thoughts about killing themselves and 31 (1.6%) patients acknowledged imminent plans to kill themselves. Black patients were most likely and Hispanic patients least likely to endorse passive and active suicidal ideation, respectively (odds ratio [OR] 1.5, 95% confidence interval [CI] 1.1 to 2.1; OR 0.50; 95% CI 0.34 to 0.73, respectively). Patients reporting both ideation and serious intent were demographically similar to all other ED patients with similar reasons for visit. Fully 97% of 184 ideators screened positive for 1 or more mood, anxiety, or substance-related disorders, and 30% of serious intent patients endorsed problems in all 3 axis I domains. Of 31 actively suicidal patients, 24 remained undetected, receiving neither psychiatric diagnoses nor referral; only 6 patients had any mention of suicidality on the index ED record. None of the 31 patients expressing suicidal intent died within 3 months of enrollment, but 4 returned within 60 days, having made serious attempts; all survived.

Conclusion: Occult suicidality is common in ambulatory ED patients presenting for nonpsychiatric problems but may be unmasked with a simple screen during routine ED evaluation.

## 68 Ziprasidone Versus Haloperidol for the Treatment of Agitation

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Study objectives: We compare the efficacy of sequential intramuscular/oral ziprasidone versus intramuscular/oral haloperidol in the treatment of hostility and excitability.

Methods: Post hoc analyses were conducted of pooled data from 2 studies in patients with acute schizophrenia or schizoaffective disorder comparing mean reductions in Brief Psychiatric Rating Scale (BPRS) hostility (item 10), excitability (item 17), and agitation factor (sum of items 2, 6, 10, and 17) scores during the first 7 days. In the first study (7 days), 90 patients received less than 3 days of

intramuscular ziprasidone and then oral ziprasidone (80 to 200 mg/day, mean  $90.5 \pm 44.9$  mg/day), and 42 patients received intramuscular haloperidol and then oral haloperidol (10 to 80 mg/day, mean  $14.0 \pm 10.1$  mg/day). In the second study (6 weeks [42 days]), 417 patients received intramuscular ziprasidone and then oral ziprasidone (80 to 160 mg/day, mean  $116 \pm 30.4$  mg/day), and 133 patients received intramuscular haloperidol and then oral haloperidol (5 to 20 mg/day, mean  $11.5 \pm 3.6$  mg/day). Initial analyses using pooled data from the 7-day trial compared mean reductions in BPRS hostility and excitability items and agitation factor for ziprasidone versus haloperidol using mixed-model repeated measures analysis of variance. Specific antihostility effect was tested during the first 7 days (pooled data) and during 42 days (the 42-day study only) by accounting for general antipsychotic effect, akathisia, and sedation.

Results: Overall, after 7 days, patients demonstrated improvement on the hostility item ( $P=.004$ ) and agitation factor ( $P=.0001$ ) of the BPRS. Ziprasidone was more effective than haloperidol on the excitability item ( $P=.02$ ) and agitation factor ( $P=.01$ ). Both drugs exhibited a specific antihostility effect.

Conclusion: Although both treatments resulted in a specific antihostility effect, ziprasidone was superior to haloperidol in the treatment of excitability and agitation.

## 69 Intramuscular Ziprasidone in Agitated Patients With Bipolar Diagnoses

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Study objectives: We evaluate the efficacy of intramuscular ziprasidone in agitated patients with bipolar disorder or schizoaffective disorder bipolar type.

Methods: This was a subgroup analysis of 2 similarly designed, randomized, double-blind, fixed-dose, 24-hour studies of intramuscular ziprasidone in agitated patients with bipolar disorder or schizoaffective disorder bipolar type. Patients received 2-mg control dose ( $n=15$ ) versus 10 mg ( $n=20$ ) and 2-mg control dose ( $n=11$ ) versus 20 mg ( $n=15$ ; 80 mg maximum). Efficacy was assessed by Behavioral Activity Rating Scale (BARS), Clinical Global Impression Scale of Severity (CGI-S), and Positive and Negative Syndrome Scale Agitation items scores.

Results: The greatest reductions in agitation (mean change in BARS) at 2 hours and 4 hours after the first dose were seen with 20-mg intramuscular ziprasidone. At 4 hours, the greatest improvement in CGI-S was seen in the 20-mg ziprasidone group. Responder rates ( $\geq 2$ -point decrease in BARS at 1.5 hours after first dose) were 80% in the 20-mg group ( $P \leq .01$  versus 2-mg control) and 58% in the 10-mg group, similar to results in the primary studies. No dystonia or excessive sedation was reported in either dosage group; 1 patient in the 10-mg group experienced akathisia.

Conclusion: Ziprasidone at 10 and 20 mg intramuscularly was rapidly effective and well tolerated in agitated psychotic patients with bipolar spectrum diagnoses, with the 20-mg intramuscular dose producing the largest decrease in agitation. The 10-mg dosage level is not consistently effective.

## 70 Intramuscular Ziprasidone in the Psychiatric Emergency Department: Expanded Sample

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Study objectives: Injectable atypical neuroleptics may supplant benzodiazepine or neuroleptic alternatives. Published studies of intramuscular ziprasidone excluded severe psychiatric agitation (AGIT) and agitation from alcohol (ETOH) or other substances (SUBS). This study sought to assess the efficacy of intramuscular ziprasidone in these patients.

Methods: We report additional data on Behavioral Activity Rating Scale (BARS) agitation scores (minimum=1, maximum=7) and duration of physical restraints in a naturalistic psychiatric emergency department study with agitated patients. Dosages were 20 mg for intramuscular ziprasidone and varied for conventional intramuscular antipsychotics (78% haloperidol or lorazepam).

Results: Baseline scores on the BARS were high for AGIT ( $n=72$ ), ETOH ( $n=10$ ), and SUBS ( $n=28$ ; respective means: 6.5, 6.9, 6.6;  $P=NS$  for all). Ziprasidone decreased agitation rapidly (respective means: 5.6, 5.3, and 5.8 at 15 minutes [ $P < .05$  for all versus baseline], and 4.2, 4.1, and 4.1 at 30 minutes [ $P < .01$  for all versus baseline]). At 2 hours, scores were 2.6, 2.1, and 2.3 ( $P < .01$  for all versus baseline). For conventional intramuscular antipsychotics ( $n=9$ ) baseline scores were 6.6 and

then 5.7 at 15 minutes, 4.2 at 30 minutes, and 2.9 at 2 hours. Restraint duration was compared with restraint data from 80 patients receiving conventional intramuscular agents during the month immediately preceding the current study. Restraint duration decreased from  $91 \pm 4$  to  $54 \pm 3$  minutes with ziprasidone ( $n=77$ ;  $P<.01$ ), and durations varied with conventional intramuscular antipsychotics, with a mean restraint time of  $60 \pm 12$  minutes ( $n=7$ ;  $P=NS$ ). Of 19 ziprasidone patients receiving ECGs, none had prolonged QTc interval; 1 dystonic reaction occurred with ziprasidone.

Conclusion: Intramuscular ziprasidone appears effective for severe agitation, including that from alcohol- or substance-induced intoxication. Intramuscular ziprasidone may also lead to reduced time in restraints compared with conventional agents.

## 71 Depressive Symptoms and Suicidality in Women Experiencing Intimate Partner Violence

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Study objectives: We compare 2 groups of abused black female emergency department (ED) patients (suicide attempters and nonattempters) with regard to specific depressive symptoms.

Methods: The study was a cross-sectional examination of intimate partner violence (IPV)-positive black women who presented to the medical or psychiatric ED for treatment. Black women with a recent history of IPV who presented after an attempted suicide ( $n=100$ ) were compared with demographically comparable IPV-positive black women who had not attempted suicide and presented for treatment of another condition ( $n=100$ ). Women completed face-to-face interviews on several measures, including demographics and the Beck Depression Inventory-II (BDI-II). Multivariate analysis of variance was used to test the hypothesis that attempters would report higher levels on the BDI-II items compared with their nonattempting counterparts. Analyses of variance were used to assess on which specific BDI-II items the groups differed. A logistic regression analysis, using the BDI-II variables with moderate effect sizes, was conducted to predict group status.

Results: Overall, there were no demographic differences between cases and controls. Attempters reported statistically significant higher scores on all 21 BDI-II items than did nonattempters. Four BDI-II items had effect size values in the medium range: sadness, self-dislike, suicidal thoughts, and feelings of worthlessness. The logistic regression model using these 4 variables correctly predicted group status 78% of the time.

Conclusion: IPV patients who attempt suicide have higher levels of depressive symptoms than nonattempters. Symptoms of sadness, self-dislike, suicidal thoughts, and feelings of worthlessness had the highest predictive value. These 4 items can be used as a brief screen in the ED to detect female IPV patients at increased risk for suicidal behavior.

## 72 Depacon in the Acute Treatment of Mania

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Study objectives: Anticonvulsants are a first-line treatment for acute mania and offer a safer and more efficacious treatment than lithium. Oral loading with valproic acid is US Food and Drug Administration approved. Valproate, the intravenous form of valproic acid, reaches peak serum concentration 4 times faster than valproic acid but is primarily used for acute seizure treatment. There is minimal literature on intravenous valproate in treating acute mania.

Methods: We describe a pilot study designed to test the safety and efficacy of intravenous valproate in treating manic patients presenting to the emergency department (ED). Five subjects, aged 21 to 50 years, who met *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* criteria for mania, were enrolled between May 1999 and April 2002. On admission to the ED, consent, blood tests, and physical examination were obtained. Psychiatric testing, including the clinical global impression score (CGI), brief psychotic rating scale (BPRS), and Young's mania rating scale (YMRS), were administered before and 1, 2, and 24 hours after valproate infusion. A loading dose of 1,200 mg valproate was given over a 1-hour period at initial testing.

Results: No adverse effects were noted. Mean scores before infusion were consistent with moderate to severe mania (CGI=4.8, BPRS=32.6, and YMRS=21.2). One hour after infusion, scores were reduced 12.5%, 7.4%, and 15.1%, respectively. The 2-hour interval showed further improvement from baseline of 29.2%, 16.6%, and 21.7%. Twenty-four hour follow-up for 4 of 5 patients showed a 37.5%, 17.2%, and 30.2% decrease from baseline. Two of the 5 patients were treated as outpatients, with transition to oral valproate.

Conclusion: Notable decreases in illness severity rapidly occurred in all manic subjects receiving intravenous valproic acid. However, because of low enrollment, no statistical significance can be inferred. Also, we must caution that decreased symptomatology could be due to sedation rather than reduction of the manic episode. Typically, manic patients require hospitalization; intravenous loading of valproate may decrease hospital stay or possibly alleviate the need for admission. This pilot study would suggest that further inquiry is warranted.

## 73 Impact of Depressive Illness on Emergency Department Recidivism: A New Approach to the "Frequent Flyer"

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Study objectives: Recent articles have found an increasing rate in depressive illness and the successful use of a 2-question case-finding instrument for depression screening (2DEP?). Repeated emergency department (ED) visits for nonemergency causes and chronic problems have been previously addressed. No study has screened for a depressive illness link as a causation for these patients seeking frequent ED care. This study evaluates the relationship between screening results for depression and frequency of ED repeated visit.

Methods: This institutional review board-approved, prospective survey evaluated all ED patients presenting during 10 consecutive days in randomized 6-hour blocks, with all hours equally represented. Adult patients presenting awake, alert, not in extremis, and without a psychiatric complaint were included and asked to answer 2DEP?. Patient characteristics, chief complaints, length of stay, number of visits during the past 12 months, and final diagnoses were included in analyses.

Results: A total of 370 patients were included, with 54% female patients and a mean age of 42.3 years. These patients had a mean 2.7 (95% confidence interval 2.3 to 3.1) ED visits in the previous 12 months. Thirty-three percent of patients answered affirmative to both depression screening questions, and 44.2% of patients answered negatively to both questions, with 55.8% answering affirmatively to at least 1 question. The frequency of ED visits and depression screening correlated well ( $P=.75$ ). Patients answering yes to both 2DEP? had a mean 3.3 visits, 1 positive response had 2.8 annual visits, and no positive responses had 1.5 annual visits (2-tailed  $\chi^2=0.011$ ). The severity of visits did not differ between these 3 groups according to length of stay and mortality data.

Conclusion: Despite being tested at a single institution, depression screening was found to predict ED patient return visits, with a high likelihood for nonemergency causes. After confirmation of these results in a multicenter study, antidepressant treatment and psychiatric referral may reduce the problem of ED patient recidivism.

## 74 Ziprasidone in Bipolar Mania: Efficacy Across Patient Subgroups

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Study objectives: We evaluate the efficacy and tolerability of ziprasidone in acute bipolar mania, focusing on clinically relevant subgroups.

Methods: This was a pooled analysis of 2 randomized, double-blind, 21-day trials comparing flexible-dose ziprasidone (40 to 80 mg twice daily) with placebo in adults with mania associated with bipolar I disorder. Changes in Mania Rating Scale (MRS) score and Clinical Global Impression of Severity (CGI-S) were calculated for combined study populations and in subgroups of patients with manic episodes, mixed episodes, and with or without psychotic symptoms.

Results: At last visit, mean change in MRS score in patients receiving ziprasidone ( $n=268$ ) was  $-11.72$  (baseline 26.82) versus  $-6.69$  (baseline 26.53) in patients