domized controlled trials include a broader range of patients than randomized controlled trials from a few decades ago with the specific intention of being more generalizable and useful to clinicians. It is nevertheless true that randomized controlled trials do focus on patients with a primary diagnosis (depression, generalized anxiety disorder, borderline personality disorder, etc.); however, these patients have comorbidities similar to those seen in the community (2).

Second, we have relatively limited systematic data on how seasoned clinicians really practice or whether adherence to one approach or a blend of approaches is better for patients of all diagnoses under all conditions. The clinicians in contemporary randomized controlled trials are frequently quite experienced themselves, and psychotherapy manuals and adherence measures often allow for appropriate flexibility pairing different strategies to different situations, as long as they fall within the general category to which the treatment belongs. While randomized controlled trials certainly do impose constraints on the treatment (most notably, with random assignment to treatment groups) that may limit generalizability, we believe that they remain the best method we have for minimizing the impact of researcher and therapist bias when evaluating differential treatment outcomes.

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Question Regarding Ziprasidone and QTc Interval Prolongation in the ZODIAC Study

TO THE EDITOR: In the February 2011 issue of the *Journal*, Brian L. Strom, M.D., M.P.H., and colleagues (1) discussed ZODIAC data in ways that may be misconstrued. The primary outcome measure was nonsuicidal mortality over the year following initiation of either ziprasidone or olanzapine. The authors found that ziprasidone was no more likely than olanzapine to increase the risk of nonsuicidal mortality when employing "real-world use" of these two agents in patients with schizophrenia. However, no systematic information was sought about baseline or serial electrocardiographic QTc interval measurements or cardiac arrhythmias such as polymorphic ventricular tachycardia or one of its subtypes, torsade de pointes. Among the 18,154 study subjects, there were no cases of torsade de pointes or other ventricular arrhythmias. Despite these limitations, the authors may have inferred conclusions about ziprasidone and QTc interval prolongation that are not supported by the data.

Shortly before Pfizer sought approval from the U.S. Food and Drug Administration for ziprasidone, several drugs had been withdrawn because of QTc interval prolongation, torsade de pointes, and cardiac morbidity and mortality. Pfizer was directed to conduct the Pfizer 054 study (2). Of the next-generation antipsychotic drugs, ziprasidone was most likely (mean=20.3 msec) and olanzapine least likely (mean=6.8 msec) to lengthen the QTc interval. Metabolic inhibitors did not lead to further QTc interval prolongation for either drug in contrast to quetiapine, in which a metabolic inhibitor led to a mean QTc interval prolongation of 19.7 msec. Generally, drug-induced QTc interval lengthening of less than 25 msec is not clinically significant (3).

Given the rarity of antipsychotic drug-associated polymorphic ventricular tachycardia, case reports rather than studies such as ZODIAC will give us the most information about this adverse event. Papers analyzing case reports (4, 5) emphasize that nondrug risk factors for QTc interval prolongation are invariably present in reports of next-generation antipsychotic drug-associated QTc interval prolongation, polymorphic ventricular tachycardia, torsade de pointes, and cardiac death. Such risk factors include hypokalemia, hypomagnesemia, hypocalcemia, bradycardia, preexisting cardiovascular disease, congenital QTc interval prolongation, female sex, advancing age, baseline QTc interval prolongation, and coadministration of nonpsychotropic drugs associated with QTc interval prolongation. Studies attempting to identify next-generation antipsychotic drugs as a cause of QTc interval prolongation must have sufficiently complete data to identify the risk factors listed above. Perhaps Strom et al. (1) might review the case reports of ziprasidone-associated QTc interval prolongation and cardiac arrhythmias on file at Pfizer with this strategy in mind.

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Response to Vieweg and Hasnain Letter

To the Editor: We appreciate the interest of Drs. Vieweg and Hasnain in our work and the opportunity to be explicit about what the goal of our study was. Drs. Vieweg and Hasnain are concerned that our data may be misconstrued, claiming that we "may have inferred conclusions about ziprasidone and QTc interval prolongation that are not supported by the data." However, as indicated in our title and throughout the article (1), our goal was to look at comparative rates of nonsuicide mortality. The conclusion of our abstract is explicit: "the study was neither powered nor designed to examine the risk of rare events like torsade de pointes." The article ends with the following:

> However, this study was not powered to examine the risk of an extremely rare event like torsade de pointes, which would have required a sample size that was orders of magnitude larger than the 18,154 patients examined in ZODIAC and would have required intensive and prolonged cardiac monitoring, which would have been at odds with the study's goal of adhering to routine clinical care.

Thus, we were not studying QTc prolongation and indeed did not even measure it. There has never been any question that ziprasidone prolongs QTc, based on Pfizer's clinical data (2). Our goal was to see whether that led to an increase in nonsuicide mortality.

Finally, Drs. Vieweg and Hasnain propose looking at case reports as a way to answer the question they pose, referencing two that they published. While case reports have their place in studying adverse drug reactions (3, 4), they could not have answered the question we were addressing. Furthermore, it is important to keep in mind their substantial limitations. As has often been stated, "The plural of anecdote is not data."

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Asenapine for the Treatment of Stuttering: An Analysis of Three Cases

To the Editor: Stuttering is a disturbance in the fluency and time patterning of speech that affects 1% of the total population (1) and may be related to excess dopamine activity (2). Dopamine antagonist antipsychotic medications have been shown to be beneficial for the treatment of stuttering (3); however, a major side effect of many agents in this class is metabolic syndrome with associated weight gain (4). Asenapine is a new atypical antipsychotic associated with less weight gain than other atypical antipsychotic medications (5). We report three cases of adults with stuttering who responded well to asenapine with good tolerability.

Case Reports

"Mr. M" is a 20-year-old man with moderate stuttering. At a treatment dosage of 5 mg of asenapine per day, the patient had a 60% improvement in his fluency as assessed by the Clinical Global Impressions (CGI-I) improvement subscale (6). After 5 months, the patient gained approximately 10 lbs and experienced mild sedation, but otherwise he tolerated the medication well.

"Mr. D" is a 45-year-old man with moderate stuttering. At a treatment dosage of 5 mg of asenapine per day, he experienced a 60% improvement in speech (much improvement on the CGI-I). While taking the medication, the patient noted increased irritability and sedation. He experienced no weight gain or appetite increase.

"Mr. A" is a 19-year-old man with moderate stuttering since he was 3 years old. At a treatment dosage of 10 mg of asenapine per day, his fluency increased approximately 75% (much improvement on the CGI-I). The patient tolerated asenapine well.

Discussion

In each of these cases, 5–10 mg/day of asenapine was associated with improved fluency. The most common side effect was sedation. One patient reported a 10-lb weight increase, but the other two experienced none. All patients presented to our clinic for stuttering treatment, and no formal measures of fluency were taken. These case reports suggest that asenapine may be an effective and well-tolerated medication for the treatment of stuttering. However, research using randomized placebo-controlled trials is warranted to further investigate asenapine in stuttering.

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