

a change in the public's thinking about health that should be encouraged, not dismissed.

M. William Audeh, M.D.

Cedars-Sinai Medical Center
Los Angeles, CA 90048
william.audeh@cshs.org

THE AUTHORS REPLY: We agree with Haga and Willard that physicians will be key interpreters of individual genetic information and that enhancing physicians' knowledge in this field is necessary to ensure accurate interpretation. It is for this reason that we call for urgent attention to the translational studies needed to assess both the clinical implications of common genetic variants and their added value in communicating risk information that is useful for disease prevention and health promotion. Although consumers may become the drivers of demand for genomewide testing, we hope that their experiences will be captured in comprehensive research studies that will inform subsequent evidence-based practice, rather than be lost in a series of improvised physician-patient encounters. Certainly, teachable moments that are based on validated information are plentiful in medical practice. We also

hope that the early-adopting consumers who find "the allure of the sirens of the genome too tempting to resist" do not find themselves caught between the Scylla of genetic determinism and the Charybdis of uncertain data.

We agree with Audeh that a greater appreciation of disease prevention in both the medical and lay communities is a key to progress. However, we urge that tools for risk stratification be firmly evidence-based, as they are for cardiovascular disease, and that they use the totality of validated risk-factor information, including family history. Premature adoption of poorly understood genome profiles may harm the public perception of the utility of risk assessment based on common genetic variants and could ultimately lead to reluctance to undertake testing, once we have the requisite information about its clinical validity and utility.

David J. Hunter, M.B., B.S., Sc.D.

Harvard School of Public Health
Boston, MA 02115

Muin J. Khoury, M.D., Ph.D.

Centers for Disease Control and Prevention
Atlanta, GA 30341

Jeffrey M. Drazen, M.D.

Serotonin Syndrome Associated with Triptan Monotherapy

TO THE EDITOR: Triptans are serotonin-receptor agonists used in the treatment of migraine headaches. When administered in combination with certain drugs, such as selective serotonin-reuptake inhibitors (SSRIs) and serotonin-norepinephrine reuptake inhibitors (SNRIs), triptans may precipitate the serotonin syndrome, a potentially life-threatening condition characterized by a triad of clinical manifestations — changes in mental status, autonomic hyperactivity, and neuromuscular abnormalities.^{1,2} The cause of the serotonin syndrome is related to altered serotonin synthesis, release, reuptake, metabolism, or receptor agonism.³ We investigated whether triptan monotherapy is associated with the serotonin syndrome by searching for such cases in the Food and Drug Administration's Adverse Event Reporting System (AERS).

We reviewed triptan adverse-event reports cod-

ed with the term "serotonin syndrome," as well as reports containing terms other than "serotonin syndrome" that were nonetheless indicative of this syndrome (e.g., agitation, tachycardia, and tremor). Cases searched in AERS included reports for triptans marketed in the United States: almotriptan, eletriptan, frovatriptan, naratriptan, rizatriptan, sumatriptan, and zolmitriptan. We excluded cases of potentially confounding medical conditions (e.g., hyperthyroidism) and cases documenting concomitant therapy with drugs known to be associated with the serotonin syndrome (e.g., SSRIs). Twenty-seven AERS cases of the serotonin syndrome related to drug-drug interaction were associated with co-prescription of various combinations of triptans and SSRIs. Our review elicited 11 cases (mean age of the patients, 39.9 years): 3 specifically coded as serotonin syndrome and 8 coded with additional terms

indicative of the triad of clinical features of the serotonin syndrome. Commonly reported symptoms among these eight cases included tremor, musculoskeletal stiffness, palpitations, flushing, hypertension, and agitation. Hospitalization as a result of the adverse event was mentioned in five cases, and two cases were coded as “life-threatening.” Anaphylactic shock could not be ruled out in one case. There were no apparent instances of overdose, except in one case that documented an intravenous overdose rather than a subcutaneous overdose. Four of the 11 cases documented an onset of symptoms within 1 hour after administration. Symptoms generally resolved over several hours either with or without supportive treatment (e.g., intravenous diphenhydramine); one case documented a return of symptoms on reintroduction of a triptan 8 months after the initial adverse event.

The serotonin syndrome is a rare but potentially serious occurrence with triptan monotherapy. Because of the spontaneous and voluntary nature of AERS reporting, the actual number of occurrences may be higher, and the risk of the

serotonin syndrome among triptan users cannot be established. If symptoms of the serotonin syndrome occur, treatment should be withdrawn, and patients should seek medical attention.

Offie P. Soldin, Ph.D., M.B.A.

Georgetown University Medical Center
Washington, DC 20057
os35@georgetown.edu

for the Obstetric–Fetal Pharmacology Research
Unit Network

Joseph M. Tonning, M.D., M.P.H.

Food and Drug Administration
Silver Spring, MD 20993

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