The Journal of Emergency Medicine, Vol. ■, No. ■, pp. 1–5, 2017
© 2017 Elsevier Inc. All rights reserved.
0736-4679/$ - see front matter

http://dx.doi.org/10.1016/j.jemermed.2017.06.026

Pharmacology in Emergency Medicine

RISPERIDONE IN THE EMERGENCY SETTING IS ASSOCIATED WITH MORE HYPOTENSION IN ELDERLY PATIENTS

Michael P. Wilson, MD, PHD,* Kimberly Nordstrom, MD, JD,*† Austin Hopper, BA,* Austin Porter, DRPH, MPH,‡§ Edward M. Castillo, PHD, MPH,*|| and Gary M. Vilke, MD*||

*Department of Emergency Medicine Behavioral Emergencies Research (DEMBER), University of Arkansas for Medical Sciences, Little Rock, Arkansas, †Psychiatric Emergency Services, Denver Health Medical Center; University of Colorado at Denver, Denver, Colorado, ‡Arkansas Department of Health, Little Rock, Arkansas, §Department of Epidemiology, Fay W. Boozman College of Public Health, University of Arkansas for Medical Sciences, Little Rock, Arkansas, and ||Department of Emergency Medicine, UC San Diego Health System, University of California San Diego, San Diego, California

Reprint Address: Michael P. Wilson, MD, PHD, Department of Emergency Medicine, UC San Diego Health System, University of California San Diego, San Diego, CA 92103.

☐ **Abstract—Background: Expert consensus panels have recommended risperidone as first-line treatment for agitation of psychiatric origin. However, there are few if any studies on this medication in the emergency setting. Objectives: To assess the hemodynamic effects of risperidone in an emergency department (ED) setting, stratified by age. Methods: This is a structured chart review of all patients who received oral risperidone over a 6-year period in an ED setting, excluding patients who received this medication as a prescription refill. Vital signs were analyzed for this subset prior to and after medication administration, and changes in vital signs were stratified by age. Results: The median dose of risperidone was less in patients aged > 65 years. However, the median drop in systolic blood pressure was larger in this age group compared with younger patients. Conclusions: Clinicians tend to be more cautious with dosing of risperidone to geriatric patients in the ED. Despite this, decreases in systolic blood pressure are larger and more frequent in this age group. When possible, clinicians should consider or attempt nonpharmacologic methods of agitation treatment prior to administering medications such as risperidone to elderly patients.** **© 2017 Elsevier Inc. All rights reserved.**

☐ **Keywords—risperidone; agitation; geriatric patients**

INTRODUCTION

Although psychiatric patients are not thought to be the most frequent emergency department (ED) patients, the influx of patients presenting to EDs with psychiatric symptoms has nonetheless continued to increase (1–4). The number of agitated patients is now approximated at 1.7 million episodes annually in the United States (5). Although the use of second-generation antipsychotics (SGAs) has not been as popular in the emergency setting for agitation as haloperidol and droperidol, expert guidelines nonetheless promote the use of SGAs like risperidone as first-line treatment for agitation of presumed psychiatric origin (6,7). These guidelines do not stratify treatment recommendations by age, despite American Geriatrics Society warnings that most, if not all, antipsychotics are inappropriate for elder adults except in cases of schizophrenia or bipolar disorder (8).

Much as in special populations like pregnant women, there are few well-controlled studies on the safety of medication in treating acute agitation in elderly patients (9). Although both first-generation antipsychotics and SGAs have warnings for use in elderly patients with

RECEIVED: 3 September 2016; FINAL SUBMISSION RECEIVED: 17 March 2017;
ACCEPTED: 28 June 2017

dementia-related psychosis, SGAs are generally preferred over first-generation antipsychotics acutely in this population (7,10). Although there have been many studies on long-term outpatient treatment with SGAs in elderly patients, less is known about the acute hemodynamic effects of SGAs such as risperidone on older patients in the acute setting.

An expert panel, including 38 geriatric psychiatrists and 14 geriatric internists/family physicians recommended using risperidone as a first-line agent for those suffering from agitated dementia with delusions and for those with late-life schizophrenia (10). However, these recommendations were developed for the outpatient setting, with little known about their acute effects in the ED. Despite this, SGAs have generally been considered as first- or second-line treatment for other types of mental illness in the geriatric population. Two recent reviews of the literature noted that atypical antipsychotics are widely used in the treatment of elderly patients both with dementia and without, but these reviews cautioned that use of these medications should be determined on a case-by-case basis due to links to cardiovascular events (11,12).

Although risperidone is thought to be effective in the emergency setting, there are no known studies of risperidone use in EDs looking specifically at hemodynamic changes that occur within hours of use (13–15). This is somewhat surprising, especially because a known side effect of this medication is orthostatic hypotension (16). This study seeks to evaluate whether there is a change in systolic pressure after the use of risperidone in the ED, generally and whether there is a frequency of hypotension difference between younger and older age groups.

STUDY DESIGN

This is a structured chart review of an historical cohort of all patient visits in either of two university EDs who received oral risperidone between October 1, 2004 and December 30, 2010. The only inclusion criterion was documentation in the chart of having received risperidone. Patients who received multiple doses of risperidone were entered in the analysis only once for the first dose of the medication, but could be entered in the analysis more than once if they made more than one visit. Patients were excluded if they had a chief complaint of prescription refill.

A separate analysis was conducted of vital signs in patients who received risperidone. The only inclusion criteria for this subset, other than having received risperidone, was having a full set of vital signs (systolic blood pressure, diastolic blood pressure, heart rate, respiratory rate, and oxygen saturation) both before the medication was given and within 4 h afterwards. As in the larger analysis, patients were excluded if they had a chief complaint of prescription refill.

The cohort was identified by a keyword search of the electronic medical record [EMR], Webcharts© (Fort Wayne, IN), for "risperidone." Patient characteristics, such as triage date, age, chief complaint, gender, and date/time of medication administration, were queried from the EMR. A structured chart audit was then performed by at least two research associates trained in the use of the EMR using a prespecified data abstraction tool, then randomly audited by a senior investigator for nonsensical values. This chart review was conducted in accordance with published methods for retrospective studies, with the sole exception that abstraction of data was not done blindly in regard to study hypotheses (17–19). For each patient, the following additional data were abstracted: medication dose, predose vital signs, postdose vital signs, route of administration, concomitant benzodiazepines within 30 min, and alcohol use. The lack of blinding was not expected to prove problematic for the analysis of the above study variables, as abstracted variables were not subjective. Approval was obtained from the local Institutional Review Board Committee prior to data collection.

Setting

Patients were seen in either of two EDs operated by the University of California San Diego. One ED serves an urban patient population; the other is located in a suburban setting. Medical and psychiatric patients are co-managed in both settings. Together these EDs have a combined census of approximately 65,000 patient visits per year.

Primary Data Analysis

Risperidone was defined as being administered together with a benzodiazepine if both medications were administered within 30 min of each other. The last set of vital signs prior to administration of medication, consisting of systolic blood pressure, heart rate, and oxygen saturation was considered as the predose vitals; the lowest measured vital signs for each parameter within 4 h after administration of medication were defined as the postdose vitals.

Vital sign changes were calculated as the patient's predose baseline minus the lowest postdose measurement for each measured vital sign. This controlled for both baseline vital signs and avoided the possibility that small differences in baseline vital signs could account for any effects after medication administration. In addition, the predose vital signs were assumed to control for the influence of any other medication previously ingested by the patient and the postdose vital signs were assumed to

Download English Version:

https://daneshyari.com/en/article/8719821

Download Persian Version:

https://daneshyari.com/article/8719821

Daneshyari.com