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MEDICATION SAFETY IN SECONDS

A MONTHLY PUBLICATION FROM VA MEDSAFE:
VA'S COMPREHENSIVE PHARMACOVIGILANCE CENTER

Helping to achieve safe medication use

VA HYPOGLYCEMIA SAFETY INITIATIVE: EVERYONE ON BOARD!

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Actual Clinical Case: A 90 year-old Veteran with dementia (on memantine and donepezil), diabetes (on glipizide 10 mg qhs, and pioglitazone 30 mg daily) and renal insufficiency (Cr 2.8 mg/dL) is found to have an A1C of 6.2 %. The primary care provider states in his note: "A1C is within range" and there were no changes to medication.

What does the VA Hypoglycemia Safety Initiative recommend for patients such as this?

Background

A recent paper in the BMJ recommended inclusion of hypoglycemia assessment as a quality measure in diabetes care. In this paper, the authors note: "Only the Department of Veterans Affairs has specifically focused on hypoglycemia with its recent initiative promoting the formulation of a personal plan for managing blood glucose." (1) Why such high praise for VA, and why is VA concerned about hypoglycemia in our Veterans with diabetes?

Historically, clinicians were encouraged to attempt to maintain blood glucoses as close to normal as possible, based on the concept that tight glycemic control would decrease microvascular (retinopathy, nephropathy, and neuropathy) and macrovascular (coronary artery disease, peripheral vascular disease, and stroke) complications. In contrast to type 1 diabetes however, the studies of tight glycemic control in type 2 diabetes have been unable to demonstrate improved clinical outcomes. The ACCORD study actually found increased overall mortality as well as cardiovascular mortality in patients

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NEWSWORTHY...

from the pbm

Amikacin Recall Due to Glass Particulates – 03/15/2016 - National PBM Patient Level Recall Communication

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VA PHARMACY BENEFITS MANAGEMENT SERVICES (PBM)

PBM maintains VA's national drug formulary, as well as promotes, optimizes, and assists VA practitioners with the safe and appropriate use of all medications.

VA CENTER FOR MEDICATION SAFETY (VA MedSAFE)

VA MedSAFE performs pharmacovigilance activities; tracks adverse drug events (ADEs) using spontaneous and integrated databases; enhances education and communication of ADEs to the field; and promotes medication safety on a national level.

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getting intensive glycemic pharmacotherapy. (2) Another study of type 2 diabetes in Veterans likewise showed no decrease in microvascular or macrovascular events with tight glycemic control. (3) Subsequently, investigators have identified that hypoglycemia associated with tight glycemic control is also associated with a higher risk of adverse cardiovascular events. (4) Finally, a VA systematic review of predictors and consequences of hypoglycemia found that intensive glucose control, age > 65 years, renal insufficiency, dementia, and treatment with insulin and/or a sulfonylurea were significant risk factors for hypoglycemia. The authors concluded that there was "good evidence for a significant association of severe hypoglycemia" and all-cause mortality, neurological events, hospitalization and emergency room visits, and lower quality of life. (5)

VA and Diabetes Targets

VA led the nation in recognizing the importance of a stratified individual target approach with diabetes, and has incorporated this concept into the VA/DoD Diabetes Guidelines since 2000. VA/DoD guidelines recommend tight glycemic control for those patients most likely to benefit (younger patients, without significant comorbidities), and more relaxed A1C targets for those less likely to benefit and more likely to be harmed by tight glycemic control (elderly, with significant comorbidities).

Hypoglycemia in Vulnerable Veterans

Despite VA highlighting individualized targets, vulnerable diabetic patients continue to be at risk for hypoglycemia. (6-8) One study found that 52% of Veterans with diabetes with dementia had an A1C of < 7.0%; of these patients, 75% used sulfonylureas and/or insulin. (6) Among high-risk Veterans with diabetes, 50% with advanced age (> 75 years of age), renal insufficiency (Cr > 2.0), or cognitive impairment/dementia had an A1C of < 7.0%. (8)

In 2013, the American Geriatrics Society, as part of the Choosing Wisely Campaign, recommended to "avoid medications to achieve an A1C < 7.5% in most adults age 65 and older; moderate control is generally better". Also in 2013, the ADA updated their standards of medical care in diabetes, stating that "less stringent A1C goals (such as < 8.0%) may be appropriate for patients with…limited life expectancy, advanced micro/macrovascular conditions, and those with long-standing diabetes…"

Choosing Wisely: The VA Hypoglycemia Safety Initiative

As part of an effort to advance the recommendations of the Choosing Wisely Campaign, VA chartered a "Choosing Wisely-Hypoglycemia Safety Initiative (HSI) Task Force" in 2014. The over-arching goal of the initiative is to foster shared decision making between clinicians and Veterans. This goal translates into lessening tight glycemic control in patients with type 2 diabetes where potential harms, such as hypoglycemia, exceed benefit. While the HSI is completely voluntary, clinicians are strongly encouraged to learn more about the evidence and incorporate relevant changes into their practice. The goal is to thoughtfully review high-risk patients and to share in decisions about the most appropriate treatment for that individual.

Free Tools to Help with Diabetes Management!

The HSI team has developed tools to assist clinicians, local VA's, and VISNs to identify and intervene with patients who are considered high risk for hypoglycemia (see references 9 and 10 for links to websites). Based on the literature, the high risk cohort includes those patients with an A1C value of less than 7% and who are on insulin or a sulfonylurea prescription, who also meet one of the following criteria: age ≥ 75 years, dementia or cognitive impairment, or serum creatinine > 1.7 mg/dL . Two tools for screening these high risk patients are available for export to any VA site- a CPRS Reminder Dialogue Template and a CPRS Clinical Reminder. The Reminder Dialog Template is a note template that can be used to document episodes of hypoglycemia and plans of care in a standardized manner. The Clinical Reminder is a tool where the clinicians are alerted in real-time to the fact that their patient is high risk. Through the Data Warehouse, lists of high risk patients are also available based on providers, and therefore can be reviewed for a specific provider panel or PACT. (10)

Implementing the VA Hypoglycemia Safety Initiative (HSI)

PACT providers may hesitate to change therapy, since the idea that "lower A1C is always better" is deeply ingrained. Similarly, many patients are resistant to change, having been warned for many years of the importance of managing tight blood sugar control. For some patients, the fear of diabetic complications may be more than for hypoglycemic episodes. In these patients, a team approach (as encouraged by the HSI) can be effective. Clinical pharmacists in particular can assist in the education, and in working directly with patients with diabetes as part of the PACT team. For patients resistant to de-escalating therapy, pharmacists can recommend safer agents less prone to cause hypoglycemia (e.g. metformin) as well as counsel patients on ways to lower their hypoglycemic risks.

Since the HSI has been rolled out, many VA's, PACT teams,

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and VISNs have used the tools, visited the web sites, and implemented this initiative. Outside of the initial VISNs who piloted this initiative, there have been 16 additional facilities requesting export of the CPRS tools and over 900 "hits" on the Data Warehouse patient-level reports. Additionally, approximately 4,100 encounters by 1,000 staff members have used the CPRS tools, to date.

Clinical Case, Revisited

So, what should you, the clinician (physician, pharmacist, nurse practitioner, etc.) do when faced with a patient such as presented? Clearly, this patient would be identified with the HSI tools. If a PACT team or a PACT provider were to use those tools, the patient could be contacted for intervention.

The PACT provider or PACT pharmacist should intervene with this patient. While there is no evidence for benefit in this patient from use of glipizide in this patient, we do have evidence that an A1C of less than 7% puts this patient at a 25-30% annual risk of serious hypoglycemia. Because of the renal insufficiency and advanced age, metformin would not be an ideal alternative. It is quite possible that this patient does not need the sulfonylurea at all, and the first shared discussion could be to stop the glipizide and continue to monitor home glucoses.

VA HSI: Everyone on Board!

While many VA's have implemented the HSI, there remain many patients (82,133 as of March 2016) in VA at risk for hypoglycemia, as identified by the HSI tools (defined above). As of March 2016, 1.5% of VA diabetics are identified by the HSI Cohort Summary Report as being at risk for hypoglycemia. Among VISNs, the range of at risk patients varies nearly 2-fold (from 1.1% to 2.1%), and among facilities, there is greater than a 4-fold variation (from 0.5% to 3.6%). So, while there is great work being done already at so many facilities, there is more work to be done. Everyone get on board!

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Getting the most from our safety surveillance

SAFETY CONSIDERATIONS WITH THE NON-VA MEDICATION ORDER PROCESS

Submitted by: Von Moore, Pharm.D., Anthony Au, Pharm.D. BCPS, and Jim Duvel, Pharm.D.

The VA Adverse Drug Event Reporting System (VA ADERS) staff routinely reviews adverse drug event (ADE) reports for symptoms of interest and for suspect drugs that have been identified for additional monitoring. In addition, an Advisory Committee meets quarterly to review trends and identify areas for increased monitoring or system issues to be reviewed in detail. During their last meeting, an ADE reported to VA ADERS with primary suspect drug of sulfamethoxazole/trimethoprim (SMX/TMP) resulting in Stevens Johnson Syndrome (SJS) was reviewed and revealed a significant safety consideration for patients receiving medications from non-VA pharmacies.

Sulfamethoxazole/Trimethoprim has the highest number of SJS reactions associated with the use of any agent reported to the VA ADERS database. SJS has been reported as the reaction associated with SMX/TMP 67 times. Reporters indicated that in 3 of these instances, the patient had a previous allergy or reaction to the drug or drug class. The death described from the report below occurred in one of these 3 cases.

A recently reported death due to an ADE was submitted to VA ADERS for a 90 year old male patient who developed SJS and died after receiving SMX/TMP. The patient initially presented to the VA emergency department (ED) with a urinary tract infection and was discharged with an outpatient prescription for

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Getting the most from our safety surveillance

SAFETY CONSIDERATIONS WITH THE NON-VA MEDICATION ORDER PROCESS

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ciprofloxacin. Three days later the culture and sensitivity results showed the pathogen was resistant to ciprofloxacin. The medication was changed (by a VA provider) to SMX/TMP to be filled at a non-VA pharmacy (the medication order not entered in patient chart). The patient took the medication and after two days his wife contacted the VA provider as the patient had welts and itching. The SMX/TMP was stopped and nitrofurantoin started. Despite stopping the SMX/TMP, the patient had progressive symptoms and presented to the VA ED as instructed and was treated for the drug allergy. The patient was subsequently diagnosed with SJS with early toxic epidermal necrolysis. Despite inpatient treatment, the patient expired several days later. Of significance in this case was that the patient had a previous known allergy documented in the VA chart since 2003 to SMX/TMP (Bactrim).

The unfortunate outcome of this event reveals a vulnerability of the allergy alert process. If the electronic order system (CPRS) is not utilized to enter patient medication orders, then medication order checks that trigger when a new order is submitted in CPRS will not alert the provider to potential medication safety issues. A second vulnerability in this case is the use of a non-VA pharmacy that may not have the same records regarding the patient's previous adverse reactions. If the prescription was processed by the VA, the VA provider and pharmacist would have received an alert when finishing the outpatient order for the SMX/TMP. That information may not have been in the patient's outpatient non-VA pharmacy records.

Any death or serious adverse outcome that occurs when a patient has had a previous reaction to the offending drug should be cause for alarm. Safeguards such as electronic records, allergy alerts, and order checks have likely reduced the number of these events that have occurred in VA.

By using the non-VA medication order process, the medication(s) being prescribed will have the standard order checks performed. However, since the Non-VA medication list is populated with VA formulary items and frequently used non formulary items, not all medications available may be listed. This will require the prescribing provider to still perform a manual review of concomitant medications, medical history and allergies to assure the medication being prescribed is safe and appropriate. When an event such as the death described above does occur, it reminds us that the medications selected while appropriate based on clinical findings should still be evaluated with the patient's past history. ■

When new medications are prescribed with the intent of being filled at a pharmacy outside the VA, these steps should be followed when possible.

1. **Enter the medication order into Non-VA meds to trigger order checks.**
2. **Review the allergies/adverse reactions field for any relevant issues.**
3. **Ask the patient about any allergies or adverse reactions related to the intended prescription.**