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April 2018

THE OMNICARE
HealthLine

Focus on Diabetes – Part 3: Addressing Other Complications of Diabetes in Older Adults

- by Allen Lefkovitz

Beyond remaining the seventh leading cause of death in the United States, diabetes (DM) creates a heavy burden on the healthcare system in our country. Recent information from the National Center for Health Statistics revealed that:

- nearly 25% of all emergency department (ED) visits involve individuals with DM
- individuals with DM who are 75 years and older are 2.5 times as likely to have an ED visit compared to other diabetics aged 45-64 years
- 34% of ED visits for diabetic patients 65 and older resulted in a hospitalization compared to 26% of older adults without DM

In addition to establishing appropriate glycemic goals (see the February 2018 issue) and selecting antidiabetic medications that have a lower risk of hypoglycemia, reduce the risk of cardiovascular events, and/or have shown benefit in slowing the progression of diabetic kidney disease (see the March 2018 issue), addressing other secondary complications related to DM is essential.

Three less commonly discussed but vitally important complications of DM that occur often in older diabetic residents are also addressed within the American Diabetes Association's (ADA) "Standards of Medical Care in Diabetes – 2018" (hereafter referred to as simply the Standards). Those diabetic complications which will be highlighted in this issue are:

Foot Ulcers | **Orthostatic Hypotension** | **Gastroparesis**

Both orthostatic hypotension and gastroparesis are considered "major clinical manifestations of diabetic autonomic neuropathy" and deserve a thorough medical evaluation when symptoms arise.

Diabetic Foot Ulcers

As more than 80% of amputations begin with foot ulcers, routine inspection and proper foot care are essential for prevention. Risk factors for foot ulcers and amputations include:

- Poor glycemic control
- Peripheral neuropathy with loss of sensation
- Cigarette smoking
- Peripheral arterial disease
- History of ulcer or amputation
- Visual impairment
- Diabetic kidney disease

Similar to the ADA, the American Geriatrics Society recommends "Older adults with DM should have a careful foot examination at least annually to check skin integrity and to determine whether there is loss of sensation or decreased perfusion and more frequently if there is evidence of any of these findings."

In addition to assessing skin integrity and sensation, older adults with DM should have their pedal pulse inspected and palpated. They also should be assessed

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for use of proper footwear, musculoskeletal deformities, decreasing walking speed, and leg fatigue or pain. Early detection of foot ulcers is critical to avoid soft tissue or bone infections that may require treatment with broad-spectrum antibiotics.

Orthostatic Hypotension in DM

Orthostatic hypotension (OH), which predisposes an individual to falls and subsequent injury, is defined as a greater than 20 mm Hg decrease in systolic blood pressure or a greater than 10 mm Hg decrease in diastolic blood pressure without an increase in heart rate when the individual stands up.

Nonpharmacological options to alleviate symptoms include ensuring adequate fluid (1.25 to 2.5 L/day) and salt (e.g., 10 g/day) intake, using compression garments on the legs or abdomen, and eating smaller but more frequent meals if symptoms are associated with meal intake. Whenever possible, medications that can cause hypotension (e.g., antihypertensives, drugs for benign prostatic hyperplasia, antiparkinson agents, morphine, trazodone) should be minimized or avoided. If pharmacological intervention becomes necessary, generic midodrine and brand Northera (droxidopa) are FDA-approved for OH.

Diabetic Gastroparesis

In addition to constipation, fecal incontinence, and esophageal dysmotility, diabetic gastroparesis is a potential manifestation of nerve damage along the gastrointestinal (GI) tract resulting from DM. Individuals with DM who experience erratic glycemic control and/or GI symptoms without another known cause should be evaluated for gastroparesis.

In addition to dietary modifications (e.g., eating multiple smaller meals, decreasing dietary fat and fiber), an important consideration in older adults with DM includes reevaluating and potentially discontinuing medications that are associated with decreased GI motility (see Table below).

Common Medications Associated with Decreased Gastric Motility*	
Opioids (e.g., morphine)	Tricyclic antidepressants (e.g., amitriptyline)
GLP-1 agonists [e.g., Trulicity (dulaglutide)]	Symlin (pramlintide)
DPP-4 Inhibitors (e.g., sitagliptin)	
Other anticholinergic medications (e.g., atropine, dicyclomine, oxybutynin, scopolamine)	

* List is not all-inclusive.
DPP-4 = dipeptidyl peptidase-4; GLP-1 = glucagon-like peptide 1

Only when dietary modifications and medication reevaluations are insufficient and symptoms are severe should additional treatment with short-term, low dose metoclopramide be considered. Due to the risk of tardive dyskinesia (potentially irreversible, involuntary movements of the face, tongue, or extremities), metoclopramide's boxed warning states: "Treatment with metoclopramide for longer than 12 weeks should be avoided in all but rare cases where therapeutic benefit is thought to outweigh the risk of developing tardive dyskinesia." It should be noted that the risk of tardive dyskinesia is increased among older adults, women, and diabetics, all of which are prevalent in long-term care facilities.

Due to the risk for heart arrhythmias, which is increased with many drug interactions, as well as tolerance to its effects, chronic use of erythromycin for diabetic gastroparesis is no longer recommended.

Prevention and early detection of diabetic complications are imperative to helping reduce both the financial and physical consequences of DM.

The 2018 ADA Standards of Medical Care in Diabetes are available for free at:
https://professional.diabetes.org/content-page/standards-medical-care-diabetes

New Risks Found With Clarithromycin Used in Individuals With Heart Disease

- By Costadina Costianis

Caution is advised when considering the antibiotic clarithromycin for individuals with heart disease due to a potential increased risk of heart problems or death that can occur years later. This is based on data from a large clinical trial, which evaluated treatment with clarithromycin in individuals with heart disease. The trial found that individuals who received clarithromycin for 14 days had an increased risk of death one year or more after treatment. The reason for this increased risk has yet to be determined. This information will be added to clarithromycin product labeling.

The macrolide antibiotics (i.e., clarithromycin, azithromycin, and erythromycin) already have a warning regarding an increased risk of heart arrhythmias which may result in death.

Other adults and individuals with cardiac disease may be even more susceptible to the risk of arrhythmia associated with macrolide use.

Healthcare providers are advised to:

- be aware of the increased risk of heart problems or death in individuals with heart failure even with short-term use of clarithromycin
- consider alternative antibiotics (based on diagnosis, culture and sensitivity, and local resistance patterns) in individuals with heart disease when appropriate
- monitor individuals with heart disease for signs and symptoms of cardiovascular problems (e.g., chest pain, shortness of breath, sudden cold sweat, unexplained heartburn), regardless of the medical condition for which they are receiving clarithromycin

Additional information about this FDA announcement can be found at:
https://www.fda.gov/Drugs/DrugSafety/ucm597289.htm

NEW Generic Medications

- by Allen Lefkovitz

Generic Name	Brand Name	Date Generic Available
Lansoprazole 15 mg and 30 mg Orally Disintegrating Delayed-Release Tablet	Prevacid® Solutab™	3/9/18
Tiagabine 12 mg and 16 mg Tablet	Gabitril® Tablet	3/9/18
Methylphenidate 10 mg Capsule ER	Ritalin LA Capsule ER	3/2/18
Clindamycin/Tretinoin 1.2%/0.025% Gel	Ziana® Gel	2/20/18
Minocycline 65 mg and 115 mg Tablet ER	Solodyn® ER Tablet	2/20/18
Memantine 7 mg, 14 mg, 21 mg, and 28 mg Capsule ER	Namenda XR® Capsule ER	2/20/18
Hydrocortisone 0.1% Lotion	Locoid® Lotion	2/16/18
Sumatriptan/Naproxen 85 mg/500 mg Tablet	Treximet® 85 mg/500 mg Tablet	2/16/18

Apadaz™ (benzhydrocodone and acetaminophen) Tablet

- by Dave Pregizer

Brand Name (Generic Name)	**Apadaz™ [AP-ah-daz] (benzhydrocodone and acetaminophen) [benz-hye-droe-KOE-done]**
How Supplied	Immediate-release tablet with 6.12 mg benzhydrocodone and 325 mg acetaminophen
Therapeutic Class	Combination opioid agonist prodrug and non-opioid analgesic
Approved Indication	Short-term (no more than 14 days) management of acute pain severe enough to require an opioid analgesic and for which alternative treatments are inadequate.
Usual Dosing	1 or 2 tablets every 4 to 6 hours as needed for pain. Not to exceed 12 tablets in a 24 hour period.
Select Drug Interactions	Risk for serotonin syndrome with serotonergic drugs (e.g., SSRIs); Monoamine Oxidase Inhibitors (MAOIs) may potentiate effects; CYP3A4/2D6 inhibitors (e.g., macrolide antibiotics) may increase plasma concentration of hydrocodone.
Most Common Side Effects	Nausea, somnolence, vomiting, constipation, pruritus, dizziness, and headache
Miscellaneous	Boxed warning for: addiction, abuse, and misuse; life-threatening respiratory depression; accidental ingestion; neonatal opioid withdrawal syndrome; hepatotoxicity; cytochrome P450 3A4 drug interactions, and risks when used with benzodiazepines/CNS depressants. 6.12 mg benzhydrocodone ≈ 4.5 mg hydrocodone or 7.5 mg hydrocodone bitartrate
Website	http://kempharm.com

Osmolex ER™ (amantadine) Extended-Release Tablet

Brand Name (Generic Name)	**Osmolex ER [OZ-mole-x ee-are] (amantadine) [a-MAN-ta-deen]**
How Supplied	129 mg, 193 mg, and 258 mg of amantadine extended-release tablets
Therapeutic Class	Dopamine Agonist
Approved Indication	Parkinson's disease and drug-induced extrapyramidal reactions in adults
Usual Dosing	Initial dose: 129 mg orally once daily in the morning. Dose may be increased in weekly intervals to a maximum daily dose of 322 mg. Do not chew, crush, or divide tablets.
Select Drug Interactions	Increased risk of anticholinergic effects with anticholinergic drugs, drugs affecting urinary pH: excretion increases with acidic urine and possible accumulation with alkaline urine.
Most Common Side Effects	Nausea, dizziness/lightheadedness, and insomnia.
Miscellaneous	Dosing frequency reduction and monitoring required for renal impairment, contraindicated with end-stage renal disease.
Website	www.osmolex.com

Contributing Authors for This Issue

Allen L. Lefkovitz, PharmD, BCGP, FASCP
Senior Clinical Advisor, Clinical Geriatrics, CVS Health

Costadina A. Costianis, PharmD, BCGP
Pharmacist, Clinical Geriatrics, CVS Health

David Pregizer, RPh
Pharmacist, Clinical Geriatrics, CVS Health
Consultant Pharmacist, HCR-Manorcare