Medications To Avoid In Heart Failure

Heart failure is a significant disease state in the elderly population. The main goal in this patient population is to prevent acute exacerbations. These patients are more sensitive to changes in fluid status and sodium retention than other patients. Therefore, as caregivers, it is important for these to be monitored and possibly restricted in our patients as well as avoiding treatments that further hinder the ability of the heart to pump blood effectively. An important way to prevent an exacerbation of heart failure is to avoid medications that can have these types of effects in our patients. The following medications are of concern in heart failure patients for a variety of reasons.

Nonsteroidal anti-inflammatory drugs (NSAIDs) as a class have been shown to increase the likelihood of a patient to be readmitted to the hospital due to an exacerbation of heart failure. The main way that NSAIDs worsen this condition is by causing vasoconstriction. This increases the afterload, meaning the heart has to work harder to push the blood throughout the body. Increasing the stress on the heart further damages its ability to perfuse the body. In addition, the vasoconstriction counteracts the positive benefits of angiotensin converting enzyme (ACE) inhibitors and angiotension II receptor blockers (ARBs). ACEs and ARBs have been shown to decrease morbidity and mortality in heart failure patients.

Actos (pioglitazone) is part of the class of medication called thiazolidinediones. This class of medication has effects on the kidney that cause an increase in sodium reabsorption in the patients, which could lead to an exacerbation of heart failure in our patients. This is something to watch out for if this medication was recently added. Daily weights and evaluation of edema can help to catch an acute situation earlier.

As shown above, medications have the potential to worsen heart failure through various mechanisms, and this is just a sample of the large list of concerning medications. It is important that we are vigilant with this patient population to prevent increased morbidity and mortality.

Mark your calendar!

ICP’s Great Adventure
October 5-6, 2012
at Great Wolf Lodge, Mason, Ohio

ICP’s Great Adventure
October 12-13, 2012
at Kalahari, Sandusky, Ohio

to receive a registration for this year’s program
email: gscherger@icppharm.com
Combating Constipation in the Elderly

Constipation can best be defined as unsatisfactory defecation characterized by infrequent stool, difficult stool passage or both. Difficult stool passage may include straining, hard stools, a feeling of incomplete evacuation or the need to use manual maneuvers to assist with defecation. Constipation is one of the most common gastrointestinal problems and accounts for more than 2.5 million physicians visit a year, and ranks among the most frequent reasons for self-medication, particularly in the elderly. Constipation is a troubling condition for older adults, often resulting in anxiety and diminished quality of life.

The prevalence of chronic constipation averages between 12-15% of the population in the United States and is greater in women. How constipation is defined is however important. This number is believed to be higher due to under-reporting symptoms to their doctors for a variety of reasons, including the relative low cost of over-the-counter therapy, lack of understanding of their symptoms as “normal” and not indicative of an underlying problem, or simple embarrassment. The rise in prevalence of chronic constipation is particularly dramatic after the age of 65. Constipation is nearly three times more common among females than males and is more prevalent among nonwhites than whites. Although constipation is more common among those over age 65, it is probably not a consequence of normal aging. Rather there are a number of comorbidities among patients in this age group which likely contribute to their increased risk of developing chronic constipation. These potential risk factors include: immobility, concomitant chronic illness, polypharmacy, and underlying neurologic disease, the most important being dementia although cerebrovascular disease, Parkinson’s disease and Multiple Sclerosis also represent significant risk factors.

The onset of constipation is generally unrelated to any known event. Early in the course of constipation, infrequent or difficult evacuation may represent the only symptom. As constipation progresses in severity, patients typically develop bloating and mild cramping type abdominal pain that is frequently worse after meals. Patients who have suffered from constipation for many years may additionally note fatigue, malaise and anorexia.

Constipation appears to be a slowly progressive disorder that rarely resolves. Long-standing constipation has been associated with several potentially serious complications. The most common of these is fecal impaction, which is a particular risk among the elderly and even more so among the institutionalized elderly. Indeed, it is of such concern that a fecal impaction is now a reportable quality event in nursing homes. If severe and prolonged, fecal impaction can lead to colonic perforation. Chronic constipation sufferers also are at risk of developing a sigmoid volvulus, or “twist” of the colon. A volvulus typically results from elongation and redundancy of the sigmoid colon. Once the volvulus has formed, it twists around itself leading to obstruction and subsequent ischemia of the colon at the level of the volvulus. If not resolved, the ischemia also may lead to colonic perforation. A third potential complication of chronic constipation is the development of a stenotic ulcer. A stenotic ulcer is a pressure ulcer of the sigmoid or rectum which results from stool remaining in the colon for long periods of time, applying pressure to the colon wall. If this condition is prolonged, again, colonic perforation may occur.

Given the potential for serious complications among elderly patients with constipation, particularly those who are institutionalized, it is important to provide effective therapy with consistent follow-up to ensure that these patients first and foremost are comfortable, but also to optimize their quality of life and to ensure that these potentially serious complications of constipation are avoided.

Once a diagnosis of constipation has been established there are basic laboratory tests for these individuals including a complete blood count, serum blood urea nitrogen, serum creatinine, serum sodium, serum calcium, serum magnesium, a thyroid-stimulating hormone level, and stool for occult blood. Sigmoidoscopy or colonoscopy should be considered for any colon mass or lesion. Chronic constipation should be considered a chronic disorder. An abdominal x-ray is also important to exclude fecal impaction. Additional tests that may be helpful include colon transit measurements, colon manometry, anorectal manometry, balloon expulsion testing, and defecography.

Heidi Trautwein, PharmD, RPh. Consultant Pharmacist, ICP, Inc.
A grieving mother recently contacted the Institute for Safe Medication Practices (ISMP) about the death of her 2-year-old son, Blake (see photo), from an accidental drug overdose. Her son was not ill, he was not taking any medicine, and he was not hospitalized. Instead, the tragic event began, of all places, at a long-term care facility.

In April 2012, the US Food and Drug Administration (FDA) alerted the public to this risk (www.fda.gov/Drugs/DrugSafety/ucm300747.htm). FDA reported that 26 children have been accidentally exposed to fentanyl patches during the past 15 years. Ten children have died, and 12 were hospitalized. Sixteen cases involved children 2 years old or younger Blake’s mother asked us to share information about how to properly use, store, and dispose of fentanyl patches, which can be found to the right. She also asked us to emphasize that parents need to be aware of possible hazards when they visit a healthcare facility with their child. She warns, “You can’t count on people not making mistakes like dropping pills or forgetting them on a bed rail. Parents should keep a close eye on their kids when visiting someone where any medicine is used.” Regulatory agencies should also require safe patch disposal in all healthcare facilities.

### Combating Constipation in the Elderly

- **Following these suggestions for safe medication in use, storage, and disposal:**
  - Keep track of patches on the floor: While medication patches should be changed every 72 hours, sometimes patients are not getting them changed in a timely manner. If a patch is placed on the floor, it needs to be disposed of properly and collected. This is important to prevent patients from falling or tripping over patches.
  - Dispose of patches safely: As a precaution, the FDA instructs patients to fold the adhesive side of a used fentanyl patch together and flush it down the toilet. Only after a fentanyl patch has been disposed of properly should a new patch be placed on the patient. The used patch should never be placed temporarily on a bedside table or stuck to a bed rail while applying a new patch.
  - Keep out of reach: Patients who will be using medication patches at home should be educated to keep new patches far away from the reach or discovery of children, and to not let children see them apply patches or call them stickers, tattoos, or special Band-Aids. This could attract children and encourage them to mimic their actions.

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The prevalence of chronic constipation averages between 12-15% of the population in the United States depending on how chronic constipation is defined. However, this number is believed to be higher due to under-reporting symptoms to their doctors for a variety of reasons, including the relative low cost of over-the-counter therapy and a misunderstanding of their symptoms as “normal” and not indicative of an underlying problem, or simple embarrasment. The rise in prevalence of chronic constipation is particularly dramatic after the age of 65. Constipation is nearly three times more common among females than males and is more prevalent among nonwhites than whites. Although constipation is more common among those over age 65, it is probably not a consequence of normal aging. Rather there are a number of comorbidities among patients in this age group which likely contribute to their increased risk of developing chronic constipation. These potential risk factors include: immobility, concomitant chronic illness, polypharmacy, and underlying neurologic disease, the most important being dementia although cerebrovascular disease, Parkinson’s disease and Multiple Sclerosis also represent significant risk factors.

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Actos (pioglitazone) is part of the class of medication called thiazolidinediones. This class of medication has effects on the kidney that cause an increase in sodium reabsorption in the kidney which leads to sodium retention. The increase in sodium levels causes the body to hold on to fluids, resulting in edema. This can lead to an exacerbation of heart failure since the heart cannot handle the extra fluid. There has been shown to be an increased risk of hospitalization and death in heart failure patients when this drug is added. Actos should be avoided in most heart failure patients especially the more severe cases.

These two calcium channel blockers, diltiazem and verapamil, have the ability to decrease the contracting force of the heart, which sounds like it would be beneficial in heart failure patients. However, in typical heart failure patients that have decreased ejection fraction, these drugs can actually activate damaging systems in the body. Due to the increased damage done to the heart, studies have shown that these two medications can increase risk for deterioration in the patient’s status. Hence, they are not recommended for use in most heart failure patients.

Pletal (cilostazol) is used to treat intermittent claudication. Due to the way this drug works, it increases the patient’s heart rate and can affect the heart rhythm. Other drugs in this same class have been shown to increase mortality due to these effects. Therefore, cilostazol is contraindicated for use in patients with heart failure.

Meegace (megestrol) is often used to help increase weight in our patient population. This medication has the potential to cause increase in fluid retention, which could lead to an exacerbation of heart failure in our patients. This is something to watch out for if this medication was recently added. Daily weights and evaluation of edema can help to catch an acute situation earlier.

As shown above, medications have the potential to worsen heart failure through various mechanisms, and this is just a sample of the large list of concerning medications. It is important that we are vigilant with this patient population to prevent increased morbidity and mortality.

Elise Weisnrauch, PharmD Candidate

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