

First Script Prescription Benefit News for Workers' Compensation

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Ask The Pharmacist

To suggest a topic, send an email to:
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How does aging affect drug performance?

The passing of time and changing performance of our physiologic, musculoskeletal and neurologic systems doesn't affect us all identically. Aging can be thought of as an accumulation of lost functioning in organs and tissues, as well as disruptions in the physiologic processes that integrate the activity of cells and organs to maintain

“homeostasis.” Understanding of age-altered pharmacokinetic and pharmacodynamic processes can assist in medication selection, as well as dosing adjustments for older patients that can avoid untoward medication reactions and effects. 40% of adults over 65 years of age take 5-9 medications per day and 18% take 10 or more.¹ Patients who are over 75 are three times more likely to suffer adverse drug reactions than middle-aged adults.

When we consider drug pharmacokinetics (how they are absorbed, distributed, metabolized, and excreted), it's true that all of these are influenced, to some degree, by aging. For example, the pH of the aging gut is reduced (more acidic), which may affect the rate and extent of a drug's dissolution. Reduced blood flow to the intestine, where most drug absorption takes place, may result in a reduced amount of drug absorbed. Age-related reductions in liver mass and blood flow may result in reduced metabolism of medications, whose bioavailability is increased as a result. A reduced number of nephrons (filtering capacity) and kidney blood flow in older persons results in a lower rate and extent of drug elimination.² “Start low and go slow,” is a popular axiom in drug dosing for older patients that follows an appreciation that drug clearance may be less efficient, creating the potential for overdose toxicity at lower doses than are recommended for younger patients. High doses and long-acting formulations of opioids are especially concerning in this respect.

Pharmacodynamic changes are equally important in predicting differences in drug response between older and younger adults. Specifically, differences in drug receptor sensitivity and related responses, as well as impaired ability to adjust core body functions like blood pressure, bladder function, temperature, and blood sugar levels make drug side effects more likely and potentially more clinically significant for elders. Older patients are especially sensitive to side effects of medications that are active in the central nervous system, such as benzodiazepines (increased sedation), neuroleptic medications (delirium, arrhythmias, postural hypotension) and opioids (respiratory depression, constipation). Elders also exhibit exaggerated responses to anticoagulants, certain antihypertensive medications.³

Aging, taken together with the increased number of treated conditions and prescribed medications, becomes a significant cause for vigilance in prescribing. Health care providers who care for aging patients are all very familiar with a set of evidence-based prescribing criteria called the Beers Criteria for older adults (named for its original author).⁴ It is updated and published by the American Geriatrics Society, which identifies potentially inappropriate medications and cautions associated with their prescribing in persons over 65.

References:

1. Budnitz DS, Lovegrove MC, Shehab N. Emergency hospitalizations for adverse drug events in older Americans. *N Engl J Med.* 2011;365(21):2002–12.
2. MerckManuals.com. Drug Therapy in Older Adults. Accessed on August 25, 2020 at: <https://www.merckmanuals.com/professional/geriatrics/drug-therapy-in-older-adults/pharmacokinetics-in-older-adults>
3. PubMed.gov. Pharmacodynamics in older adults: a review. Accessed on August 25, 2020 at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1884408/>
4. PharmacyToday.org November 1, 2019, 2019 AGS Beers Criteria for older

Clinical Updates

FDA requires new labeling for opioids and opioid use disorder medications

In late July, the U.S. Food and Drug Administration (FDA) announced that required product labeling and medication guides for opioid analgesics and medications used to treat opioid use disorder (OUD) will be updated to recommend that the availability of naloxone be discussed with patients when initiating or refilling prescriptions. To find out more read the [bulletin](#).

Drug of the Month

Duloxetine

Duloxetine is a medication initially approved by the FDA for the treatment of major depression and generalized anxiety disorder in adults, and which has, since its introduction, been further studied for the management of several neuropathic pain conditions. The current prescribing information includes approved indications for diabetic peripheral neuropathy pain (DPNP), fibromyalgia, and chronic musculoskeletal pain in adults.¹ It is widely available, by prescription, as branded (Cymbalta®) and generic formulations in U.S. retail pharmacy settings and is a useful option in managing neuropathic pain or mixed pain conditions in combination with other agents.

Duloxetine and venlafaxine, another medication in the same category, called serotonin-norepinephrine reuptake inhibitors (SNRI), share similar indications for painful conditions and are useful when a neuropathic contribution is suspected. Older antidepressants (tricyclic antidepressants) like amitriptyline and nortriptyline are also effective for this use but come with greater side effects than either SNRI. Gabapentinoids, like Lyrica®, pregabalin and generic gabapentin, are also options for neuropathic pain.

The effective dose range for duloxetine in pain treatment is up to 60 mg per day for DPNP and chronic musculoskeletal pain. Drug-drug interactions with SNRIs include an increased risk of bleeding in combination with nonsteroidal anti-inflammatory drugs (NSAIDs) or salicylates (e.g., aspirin). Abrupt discontinuation of duloxetine should be avoided, and tapering is recommended to avoid serious withdrawal symptoms.

Antidepressant medications are a top 10 category for utilization and spend in the First Script® book of business and duloxetine represents nearly 40% of all prescribed antidepressant medications, making it a popular choice as alternatives to more risky medications for pain are sought.

The Official Disability Guidelines² conditionally recommend duloxetine, a “Y” drug, as an option for first-line treatment of neuropathic pain.

For additional information, please contact your First Script Account Manager or Account Pharmacist.

References:

1. Cymbalta® - Highlights of Prescribing Information. Accessed on August 29, 2020 at: <https://pi.lilly.com/us/cymbalta-pi.pdf>
2. The Official Disability Guidelines. Accessed on August 31, 2020 at: www.odgbymcg.com



Governmental Activity by State

Find out more about the governmental updates and potential changes currently being proposed in your state

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