Seniors and Opiods

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Prevalence

- The prevalence of pain in older adults is high. The care of older adults can occur in varied settings ranging from independent living to long term care and palliative care. Studies report the prevalence of pain in community-dwelling elderly at 25%–50% and for nursing home residents as high as 70% (Ferrell 2003).
- The American Geriatrics Society (AGS) panel on persistent pain in older persons states that up-to 80% of long-term care residents have substantial pain (AGS 2002), and 25% of those received neither analgesic medication nor nonpharmacological treatment for their pain (Won et al 2004). It is important to assess for pain, evaluate, treat, and recognize side effects that may be associated with the pharmacologic management of pain in older adults.

Prevalence

- According to the World Health Organization palliative pain management ladder, patients with moderate to severe pain should receive opioid analgesics as the mainstay of treatment (WHO 2006).

Prevalence

- TUESDAY, July 31, 2018 (HealthDay News) -- A new survey suggests health care professionals are giving short shrift to their older patients when it comes to explaining the risks of opioid painkillers.
- Researchers found that most older Americans who are prescribed opioids aren't advised about the dangers of the drugs, how to use fewer of them, when to use non-opioid alternatives, or what to do with leftover opioids.
- The poll was conducted by the University of Michigan Institute for Healthcare Policy and Innovation, and sponsored by AARP and Michigan Medicine, the university's academic medical center.

Considerations for Opioid Use in Elderly Patients from US Pharmacists

- In the management of chronic pain, clinicians should consider nonpharmacologic therapy and nonopioid pharmacologic therapy before initiating opioids.[1]Nonpharmacologic interventions include relaxation techniques, self-hypnosis, psychiatric therapy, local heat applications, cold massage, electrical nerve stimulation, and physical therapy. Nonopioid pharmacologic therapy may include antidepressants, antiarrhythmics, anticonvulsants, tranquilizers, and regional anesthesia.[6]
- Opioid use should be implemented only when alleviation of pain and improvement of function outweigh the risks to the patient.[1] The goals of chronic pain therapy are to decrease pain, increase function, and improve overall quality of life.[4] Prevention and elimination of unnecessary suffering are the keys to successful management of chronic pain.[6]

Hardy Survivor or Late Onset

- According to the Office of Alcoholism and Substance Abuse Services, substance abuse among senior citizens can be classified into two general forms: the "hardy survivor," or those who have been abusing substances for many years and have reached 65, and the "late onset" group, which is those who form addictions later in life.

Physiologic changes with aging

- In general, the rate at which certain drugs are absorbed can be altered in the elderly because of decreased gastrointestinal transit time and increased gastric pH secondary to use of proton pump inhibitors, H_2 receptor antagonist, or antacids. With aging, there are changes in body composition: increase in adipose tissue, decrease in lean body mass and decrease in total body water. These changes can affect drug distribution. Therefore, lipophilic drugs tend to have greater volume of distribution, and it can take more time to be eliminated from the body (Linnebur et al 2005).

Physiologic changes with aging

- Aging can also bring reduction in hepatic blood flow and volume which can decrease metabolism of drugs (Tegeder et al 1999; AGS 2006).
- Elimination of drugs can be altered with age related reductions in renal blood flow and glomerular filtration rate. For opiates that have primary renal clearance, such as morphine and hydromorphone, decreases in GFR lead to more side effects (Davies et al 1996). The above changes generally cause drugs used in elderly to be more potent and have a longer duration of action than predicted

Physiologic changes with aging

- Because of pharmacokinetic and pharmacodynamic changes with aging, opioids should be started at the lower dose, about 25%–50% of the dose given to younger patients (Clark 2001). Opioids that should be avoided in the older patients include meperidine, propoxyphene, and tramadol. Meperidine has active metabolites which can cause neuroexcitation, nervousness, and seizures.

Combinations

- Oral opioid medications are the most commonly prescribed medications in palliative care and geriatrics. Step 2 opiates of the WHO ladder generally consist of combination opiates containing hydrocodone, oxycodone with acetaminophen, or NSAIDs. These have ceiling limits based on the toxicity of the acetaminophen- or NSAID-dosing.
- Short-acting agents like oral morphine, hydromorphone, oxycodone, and codeine are used alone or in combination with acetaminophen, aspirin (ASA), or ibuprofen. Peak analgesic effect occurs within 60 minutes and the effect lasts for 2–4 hours in patients with normal renal function. These medications can be dosed at a 4-hour interval if given alone or 6-hour intervals if used in combination (APM 1992; PDR 2007; Thomson 2007).

The Challenge

- The evaluation of pain and the subsequent issue of pain control is a clinical challenge that all healthcare providers face. Pain in the elderly population is especially difficult given the myriad of physiological, pharmacological, and psychological aspects of caring for the geriatric patient. Opiates are the mainstay of pain treatment throughout all age groups but special attention must be paid to the efficacy and side effects of these powerful drugs when prescribing to a population with impaired metabolism, excretion and physical reserve.

Unrecognized Pain

- Dementia is prevalent and may impair the perception of pain, ability to report pain, ability to recall pain sensation for evaluating relief, and the ability to communicate about relief. Thus, the potential for unrelieved and unrecognized pain is greater among those who cannot reliably evaluate and/or verbally express their discomfort (AGS 2002).

Tramadol

- Tramadol is not recommended in patients who are taking serotonergic medications or in those with underlying seizure disorders. Tramadol binds to opioid receptors and inhibits the reuptake of both norepinephrine and serotonin (AGS 2006).

Around the Clock?

- Although the AGS pain panel (2002) recommends around the clock pain control versus "on demand" methods, there maybe appropriate needs for using as needed orders (PRN). When using PRN orders, it is important to use these orders in a range to provide options, but narrow enough to ensure safety, keeping in mind renal/hepatic functions of the individual patients.

Potency

- Opiate equianalgesic potency tables are not precise and vary slightly based on the source; they should be used only as guides. Commonly reported equianalgesic tables include the following (short acting formulations, oral) (VA/DoD 2007):
- Morphine 30 mg
- Oxycodone 15–30 mg
- Hydrocodone 30 mg
- Hydromorphone 7.5 mg
- Codeine 180–200 mg
- Methadone is highly variable depending on previous opiate dose

Central nervous system adverse effects

- Sedation and mild cognitive impairment are the other common side effects of opioids in elderly (Hayes et al 2007). Combinations of opioids and other central nervous system (CNS) depressant drugs such as barbiturates, benzodiazepines, antidepressants, and antipsychotics may have additive effects on sedation. Since most of the elderly are on polypharmacy, a careful review of medications is crucial while they are on opioid therapy (Cherny et al 2001). Myoclonus is the other CNS adverse effect and occurs in patients with chronic opioid therapy. It appears to be dose related and more common with oral morphine than parenteral which suggests it may be due to a production of morphine metabolites by the liver (Cherny et al 2001).

Pruritis

- Pruritis is itchy skin that makes you want to scratch. It can be caused by many things. Normally, itchy skin isn't serious, but it can make you uncomfortable. Sometimes, itchy skin is caused by a serious medical condition. However, most itchy skin can be treated at home with lotions, moisturizers, and over-the-counter medicines.
- Pruritis develops in about 2%–10% of patients with opioid use (Cherny et al 2001). This generally resolves within one week.

Respiratory depression & NARCAN

- The agonist activity of opioids at the μ-opiate receptors is very important clinically in the alleviation of pain. However; it is also the cause of an unwanted side effect which is the marked depression of breathing that can complicate their clinical administration and be potentially life threatening when opiates are abused (McCrimmon and Alheid 2003). The degree of respiratory depression depends upon the serum level of opioids. First, patients become somnolent, and then they become less arousable and finally obtunded. The pattern of respiration becomes shallower and slower. Naloxone is the opioid receptor antagonist and is not recommend for use until the patient's respiratory rate is less than 8 breaths per minute or the oxygen saturation is less than 90%. This is done to avoid pain crisis and acute withdrawal symptoms (Ferrell 2003; AGS 2006).

Opioid-induced hyperalgesia

- Patients who are receiving increasing doses of opioids may have opioid-induced hyperlagesia. This is the phenomenon of increasing sensitivity to both pain (hyperlagesia) and nonpainful stimuli (allodynia). The mechanism of action is due to toxic metabolites of opioid (morphine-3-glucuronide (M3G) or hydromorphone-3-glucronide (H3G), activation of N-metyl-D-asparate (NMDA) receptors in the CNS. Since it is due to the effect of toxic metabolites, the other opioid hyper excitability effects such as myoclonus, delirium or seizures can also be present (Kranz et al 2003).

Endocrine

- Opioids have effects on two levels in the endocrine system: hypothalamic-pituitary-adrenal axis and also on the hypothalamic-pituitary-gonadal axis resulting in reduced serum luteinizing hormone, cortisol levels and increased prolactin levels (Ballantyne and Mao 2003).
- Diminished bone density, decreased libido and impaired sexual performance are reported with chronic opiate use. Heroin use results in acute suppression of luteinizing hormone (LH) release from the pituitary followed by a secondary drop in plasma testosterone levels (Mirin et al 1980).

Nausea

- Furlan and colleagues (2006) did a meta-analysis of effectiveness and side effects of opioids and found that nausea was the most significant side effect 14% (95% Confidence interval 4%–25%).

OPIATE INDUCED CONSTIPATION

- Walsh (1984) conducted studies regarding opiate-induced constipation in hospice patients in Florida and found that 40% to 64% of hospice patients with cancer have been found to have constipation. Walsh also concluded that constipation is the most common side effect of morphine in hospice patients with a prevalence of 48% and it impacted negatively on quality of life.
- Management of constipation is important in patients who are taking opioids which can sometimes lead to serious complications. Unlike other side effects of opioids, there is no tolerance effect on constipation, so treatment of constipation should be initiated preventively at the same time when opioid therapy is started. Combined use of stool softeners and stimulant laxatives are recommended (Walsh 1984).

Urinary retention

- Urinary retention is the anticholinergic side effect of opioids and can be secondary to opioid-induced constipation (Meier et al 1998).

Potentially Lethal Combinations

- Benzodiazepines, which are used to treat anxiety, pain or insomnia, are some of the most dangerous prescription drugs for seniors. These are generously prescribed and highly addictive. The rate of senior citizens addicted to benzos has increased every year.
- Pharmacologic Consequences of Combination Opioid and Alcohol Use
- One of the major concerns when combining alcohol with opioid analgesics is the pharmacokinetic consequence of "dose dumping." Dose dumping is defined as the unintended, rapid release (over a short period of time) of the entire amount or a significant fraction of the drug contained in a modified-release dosage form. Alcohol is linked to dose-dumping effects across specific long-acting opioid (LAO) formulations, and significantly increases their dangers, as well as their abuse liability.

Potential triggers for drug or alcohol addiction in the elderly are:

- Retirement
- Death of a family member, spouse, pet or close friend
- Loss of income or financial strains
- Relocation or placement in a nursing home
- Trouble sleeping
- Family conflict
- Mental or physical health decline (depression, memory loss, major surgeries, etc.)

Warning Signs

- Changes in sleep patterns and/or appetite that cannot be attributed to other reasons
- Increased falling
- Frequently changing physicians or "doctor shopping" to get multiple prescriptions
- Filling prescriptions at multiple pharmacies
- New onset irritability or agitation
- Periods of confusion
- Empty liquor bottles in the garbage or recycling bin.

Screening

- The Short Michigan Alcoholism Screening Instrument – Geriatric Version (SMAST-G) was developed as the first short-form alcoholism screening instrument tailored to the needs of older adults. A score of 2 or more "yes" responses suggests an alcohol problem (Blow, et al, 1992). The Substance Abuse and Mental Health Services Administration (SAMHSA) Guidelines now recommend that a screening test like the SMAST-G be the first step in SBIRT, a process of Screening, Brief Intervention, Referral to Treatment.

PDMP

- The Colorado Prescription Drug Monitoring Program (PDMP) is a powerful tool for prescribers and dispensers to help reduce prescription drug misuse, abuse and diversion: helping them to make more informed decisions when considering prescribing or dispensing a controlled substance to a patient.
- Pharmacies upload prescription data every regular business day for controlled medications listed in Schedules II to V that are dispensed to Colorado patients. Prescribers and pharmacists with registered accounts may access information on patients under their care. In January 2015, they may begin assigning sub-accounts to up to three members of their healthcare team.
- Prescribers and dispensers can use the PDMP to stop "doctor-shopping," a tactic used by patients to obtain prescription drugs for misuse, abuse or diversion from multiple prescribers or dispensers without their knowledge.

Finding Treatment

- **What is SAMHSA's National Helpline?**
- SAMHSA's National Helpline, 1-800-662-HELP (4357), (also known as the Treatment Referral Routing Service) or TTY: 1-800-487-4889 is a confidential, free, 24-hour-a-day, 365-day-a-year, information service, in English and Spanish, for individuals and family members facing mental and/or substance use disorders. This service provides referrals to local treatment facilities, support groups, and community-based organizations. Callers can also order free publications and other information.
- Also visit the online treatment locators.

Treatment Challenges

- Uneducated clinicians
- Longer Detox times
- Age difference with other patients
- Feeling of loss of purpose in life
- Co-Morbidity with medical and psychological issues
- Cultural Challenges
- Medical Care Coordination
- Polypharmacy

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