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From the Editor



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Who is to blame for the opioid crisis?

Those of us who provide care to older adults know that pain is a very common symptom. The majority of the pain is musculoskeletal and chronic although many older individuals also experience neuropathic pain associated with peripheral neuropathy or acute pain associated with an injury or an acute medical problem. Often in geriatrics we have no cure for the underlying cause of the pain. Treatment approaches should certainly start with nonpharmacological interventions such as appropriate positioning, exercise/physical activity, heat, ice, local treatments with over the counter preparations such as icy/hot, aspercreme or other options of the individual's choice. Although not legalized in all states, cannabidiol oil has also been noted to be used to help with pain management. These local treatments can be applied frequently throughout the day. Some individuals find complementary treatments such as massage or acupuncture helpful as well.

Pharmacological interventions generally start with acetaminophen at maximal dosages and some older adults will use over the counter non-steroidal anti-inflammatory medications or non-steroidal anti-inflammatory gels or lidocaine patches applied locally to an area of pain (e.g., a knee; rib). A steroid may be used locally or systemically for short term treatment or in some cases a hyaluric acid injection to a joint. Despite all of these interventions, there are some people who continue to have a level of pain that makes life intolerable. At that point, opioids are the next option usually starting with an oral treatment. What if that option goes away? While opioids are not treating the underlying cause of the pain they may give some people mind numbing relief from the pain so that they can engage in routine activities. While opioid addiction is a major concern for a subset of the population, do we need to punish all who have pain? There are some individuals who are more likely to become addicted than others. Likewise, there are some individuals who are more likely to get diabetes than others, yet we have not stopped selling all of the foods that increase the risk of diabetes.

Opioid addiction is a chronic disease that impacts the health and quality of life for an addicted individual. Opioid addiction is characterized by a powerful, compulsive urge to use opioid drugs, even

when they are no longer required medically. Prior research has associated genetic factors with opioid addiction or the tendency to become addicted.¹ Conversely, genetics probably contribute to the reason that many people cannot tolerate taking opioids at all due to side effects such as nausea, dizziness, or allergic reactions. Dopamine, which is a neurotransmitter in the central nervous system (CNS), regulates pleasure by activating dopamine receptors. Dopamine release and dopaminergic receptor expression in the mesolimbic dopamine system is associated with aspects of addictive behavior including impulsivity, novelty-seeking, and reward deficiency syndrome which is a deficiency of dopamine in the brain's reward center.

Genetics alone are not the only factor that influences addiction. Genetics interact with the individual's environment, psychosocial factors (e.g., stress) and physical factors (e.g., pain) in the development of a substance abuse disorder. The interaction of genetics with the environment results in epigenetic changes resulting in addiction and substance abuse. Epigenetic changes are regulations of gene expression that do not involve alterations in the sequence of the genetic material itself. Instead, epigenetic changes are additional information that gets added to already existing genetic material and then influences the expression of genes. For example, it is likely that in some individuals stress causes a release of stress hormones that interact with the reward system in the brain to lead to addiction and drug abuse among some individuals. The bottom line is that not all individuals will become addicted just because we prescribed a course of opioids for either acute or chronic pain.

Who is to blame for the opioid crisis we have today and what impact will it have on our ability to manage pain in geriatrics? Are pharmaceutical companies solely responsible? Are providers responsible for initiation of opioid use for pain management before trying alternative approaches? Are patients responsible for addictions and addictive behaviors? As with many clinical challenges and problems there are multiple factors and multiple causes. We all need to take responsibility and we all need to stop pointing fingers and work together to optimally manage pain. We need to think



about alternatives to narcotics that may help both acute and chronic pain and motivate patients to try these options (e.g., physical activity; heat/ice; positioning) which in some cases take more work than simply taking a pill. Prescribers should be less willing to initiate the use of an opioid for a treatment/procedure such as oral procedures that can be handled using alternatives. I have had multiple experiences following surgical interventions where I was asked if I wanted an opioid and in one situation they insisted on sending me home with a prescription I had no intention of filling! Pharmaceutical companies can help to provide the education around alternative treatments and appropriate use of opioids for those that do truly need and benefit from them. Lastly, we need to alter our expectations of pain. Life comes with pain as it is a warning sign that something may be wrong, for example, the pain associated with a burn, an infection, or a laceration. We need to eliminate the cause of the pain when possible and then help patients accept that some pain may be present and that they can be in control of managing that

pain. I hope that there will be a silver lining from the opioid crisis. The silver lining I hope for will be a team approach to pain management so that pain is realistically and optimally managed for all in a timely manner using multiple modalities and in a way that does not cause negative outcomes.

Reference

1. Mistry CJ, Bawor M, Desai D, Marsh DC, Samaan Z. Genetics of opioid dependence: a review of the genetic contribution to opioid dependence. *Curr Psychiatry Rev.* 2014;10(2):156–167.

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