POORLY RECOGNIZED HEALTH TRENDS AND CONSEQUENCES OF OPIATE USE WITHIN THE UNITED STATES

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Introduction
One of the largest contributing factors to the U.S. healthcare burden is the growing epidemic of chronic pain, which affects almost 1 out of 3 people and outnumbers all disease states combined. More than 100 million Americans are afflicted with chronic pain and almost half (44%) of those with moderate to severe pain are inadequately treated (1).

The use of opiates within American society has skyrocketed, however this has not been met with a commensurate increase in the ability to adequately treat pain. It is now becoming apparent that chronic use of opiates has led to an increased inability to reach successful patient outcomes, frequently inducing greater pain as well as facilitating or exacerbating considerable comorbidities.

The acute use of opiates following trauma is quite appropriate. Poorly managed acute pain is a major factor in developing chronic pain states. In addition the memory of pain is a defining factor in an individual's future perception of pain quality. While there is quite a role for opiates in acute pain, their encompassing role in chronic pain needs to be evaluated. The current trend of opiate over-utilization may be resulting from patient expectations, limitations in the physician's time with patients, and a lack of effective alternate pain management tools and strategies.

There has been a preoccupation with the more sensationalistic aspects of the opiate problem (abuse, addiction, accidental death). As a result the societal cost of opiate abuse has been the primary focus, rather than the larger societal health care burden of inadequate pain management for 15% of society ($55 billion/year vs $600 billion/year). It is becoming increasingly apparent that the opiate conundrum is a leading factor in the inability to effectively manage these patients.

Factors limiting successful outcomes in pain management
Many of the consequences of opiate use at an individual and societal level are well recognized (overdose deaths becoming the leading cause of accidental death, addiction, etc.). However two of the greatest factors limiting successful outcomes in pain management are not, even though they have been recognized for over a century.

One of these factors is Opiate Induced Hyperalgesia (OIH), which actually can magnify the pain and increase pain upon discontinuation of the therapy (2-4). There are several known mechanisms but the appreciation for this adverse effect is not fully considered due to the difficulty to quantify it relative to patient biodiversity and other variables. It is now being postulated that OIH is present in most patients receiving long-term opiate therapy (2,5) with numerous distinct mechanisms now being identified. The second major factor is neuro-endocrine disruption. There is a disruption of the Hypothalamic-Pituitary-Gonadal (HPG) axis and the Hypothalamic Pituitary Adrenal (HPA) axis (6,7). These effects can cause downstream disruption of physiologic functions and contribute to comorbidities not normally recognized as a complication of opiate use.

The implications are profound as these unrecognized attributes of opiates can compromise pain management and recovery. Studies are showing that chronic pain development following severe trauma is increased with the use of opiates compared to other treatment options (8). In addition, the pain is significantly higher with poorer psychological outcomes and functionality with chronic opiate use (9).

Neuro-endocrine disruption is a major contributing factor and even less considered than OIH. In particular the inhibition of testosterone production can contribute to numerous conditions and comorbidities (10). The effects of suppression of the HPA axis and hypogonadism are well known; insomnia, loss of libido, loss of short-term memory, loss of a sense of well-being, reduced exercise...
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tolerance, etc. It should not be surprising then that trends on studies with long-term opiate use are showing increases in anxiety, depression, suicidal ideation, Chronic Fatigue Syndrome (CFS), Post Traumatic Stress Disorder (PTSD) (10), and more. Disruption of the HPA axis is also known to contribute to depression, CFS, and PTSD (11).

The combination of the influences of OIH and neuroendocrine disruption are clearly synergistic. How patients react will vary based on genetics, pharmacotherapy, life events, and many biodiverse influences. These factors make the identification and management of the adverse effects of opiates following chronic use challenging.

Conclusions

The national Institute Of Medicine (IOM) on congressional charter following passage of the Affordable Care Act (ACA), performed an exhaustive investigation and analysis of the chronic pain epidemic (1). The IOM report addressed the conundrum of opioids and noted the need for major changes in the way pain management is handled in this country.

The study came to numerous conclusions including: The need for improved integrative care and professional collaboration, to integrate technology, to make discovery, and to discern comparative effectiveness of various treatment options and modalities. The medical community and the related health care industries have largely ignored the last conclusion. The report pointed to the need to discern other integrative and alternate treatment methods to more effectively manage pain and to mitigate the opiate problem. The IOM report defined that the ability to effectively manage pain results in considerable health care savings. The consideration of the effects on other comorbidities and psychological impacts should be considerable as well.

The Pharmacy Benefit Managers (PBMs) administer the health plans for the payors. It is their function to make therapeutic and formulary decisions based on a cost-benefit analysis. Without the ability to discern comparative effectiveness and to fully consider patient outcomes, they have been relegated to using drug utilization review and other measures. Dominating the consideration is the cost element without consideration of the full therapeutic picture and human element. It is crucial to restore the moral imperative and to realize that these figures reflect human pain, suffering, and sacrifice. If we can more effectively manage pain, we can reduce both costs and improve the human condition.

REFERENCES

1. IOM (Institute of Medicine) 2011 Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research, Washington DC; National Academies Press


