

Pharmaceuticals

Opioid shock

Sir, I am responding to a letter by D. Silveira¹ in a recent issue, in which the use of opioids for dental pain is advocated. I was quite shocked to read this, as I am of the contrary opinion. Firstly, with regards to the mechanism of action, codeine is a pro-drug which is converted by the liver to morphine, which is an agonist of opioid receptors at various sites.

By comparison, diacetylmorphine (heroin) is two morphine molecules together with acetylation. When taken orally it is also a pro-drug for morphine. If administered intravenously, its structure allows it to cross the blood-brain barrier more quickly, after which it is broken down into active 6-MAM (monoacetylmorphine) and then morphine.

With the exception of the active metabolite 6-MAM, codeine and heroin are pharmacodynamically identical. The difference in effects is largely down to their kinetics: the rapidity of onset is

responsible for the sensation of the high for which heroin is abused. Whilst this comparison may seem over-the-top, I feel it is important. It is easy to have a false sense of security about codeine but it must not be taken lightly. According to the BNF app, the side effect profile for both of these drugs is the same.

Of course, the side effects must be weighed against the benefits. The burden of evidence indicates that opioids are generally ineffective for toothaches. I hypothesise that the reason for this is that head and neck pain does not have any processing at the level of the spinal cord, which is a major site of action for opioids. Furthermore, there is also some evidence that opioids (specifically dihydrocodeine) can make dental pain worse.² All of this is reflected in dental prescribing guidance from SDCEP recommending against the use of opioids for dental pain.

There is a pervasive myth perpetuated by the pharmaceutical industry that prescription opioids have low addictive potential.³ However, we need only look

at the opioid crisis in the USA to see that they must be used with extreme caution. Many opioid addictions start with prescription opioids. I myself have recently had an encounter with an aggressive patient demanding codeine outside of my workplace. At a pharmacy, he then tried to pass off an antibiotic prescription as also including codeine.

Although the various opioid drugs vary in their potency, they have more in common than differences. In my opinion, the side-effect profile of opioids is not acceptable for their limited effect on dental pain. As prescribers we must be especially careful with drugs which are addictive.

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References

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3. Van Zee A. The promotion and marketing of oxycontin. *Am J Public Health* 2009; **99**: 221-227.

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