From painkiller to killer: the ‘oxy’ case

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On my return flight from ISAKOS’s Congress in Cancun, I watched the in-flight movie, an American family drama called ‘Ben is Back’.1 Ben is a teenage addict, and his mother—played by Julia Roberts—is Christmas shopping. She bumps into Ben’s old doctor, Dr Crane, who seems to be drifting into senility. She asks him: “Do you remember my son Ben?” Apparently, he does not, but she continues: “When Ben was 14 he had a minor snow-boarding injury, and you prescribed painkillers. I was worried, but you told me they were not addictive, and you kept upping the dose. Well, he got hooked, and it has f*****d up his life. So you can pretend you don’t remember, but I won’t forget. I hope you die a horrible death! Merry Christmas.”

Pain is the most common reason patients visit orthopaedic surgeons. Patients are seeking treatment to get rid of their pain. And we are very good at doing this, with our advice and surgical interventions.

We also prescribe painkillers, as part of our conservative treatment, for fracture care and postsurgical pain.

But some 70 000 people die every year in the USA from overdoses, and the majority of deaths are from opioid painkillers.2 How did it get this far?

LET’S CONSIDER SOME BASICS

Nociception is a neurophysiological mechanism by which the central nervous system is alerted to actual or potential tissue damage on the periphery. Nociception can either be ‘superficial’ or ‘deep’, depending on the stimulus location. Superficial nociception derives from the skin and is usually short and sharp. It transmits quickly, along myelinated A-delta fibres at 4–36 m/s. Deep nociception derives from ligaments, tendons, muscles, bones and so on, and is usually dull and aching.

But pain is also influenced by psychosocial factors, which can ameliorate pain—or aggravate it. Some cultures, like those of ancient Sparta or American Indians, teach that pain must be endured, and these cultures have a higher ‘tolerance of pain’. Other cultures are more sensitive to pain, more fearful, and consequently have a lower ‘tolerance’. Western culture has been drifting in this direction.3–5

We administer four categories of painkillers. We start with acetaminophen/paracetamol (category 1), followed by non-steroidal anti-inflammatory drugs (NSAIDs) (category 2). If stronger painkillers are necessary, we prescribe mild opioids such as tramadol and codeine (category 3). In the WHO ‘Pain Ladder’ strong opioids like oxycodone and fentanyl (category 4) are reserved for cancer treatment.6

The rationale for WHO’s Ladder was that NSAIDs, and especially acetaminophen/paracetamol, are relatively safe, inexpensive and effective as analgesics. Opioids are more expensive—and also addictive.7–9

In ancient times even Hippocrates thought they should be used sparingly and under controlled conditions.10

THE ‘OXY’ CASE

Recently, The Guardian revealed that ‘Eight members of the Sackler family are being held responsible for the current deadly opioid-crisis in the USA. They are being prosecuted by hundreds of US cities, States and third-parties. The Sackler family owns the pharmaceutical company, Purdue Pharma, which produces Oxycontin and Oxycodone’.11

Oxycodone is a strong painkiller which suppresses pain sensations in the brain. It also relaxes the patient and reduces anxiety, inducing euphoria similar to that of heroine. The majority of those 70 000 deaths per year can be ascribed to drugs like oxycodone.

In 2007 Purdue Pharma paid a fine of US$600 million. The company had admitted that it had kept silent about known side effects.12

Of course, there is nothing modern about the use of opioids. In the Odyssey, Homer describes how Odysseus’s son Telemachus was so worried about his father’s fate that he was given opium to soothe his anxiety.10 And every medicine cabinet in Victorian England had a bottle of laudanum—a powerful mixture of brandy and opium—as its medication of first call.

But opioids can be habit-forming. After finishing their medication, patients often complain of cramping, muscle soreness, nausea and depression. These ‘withdrawal effects’ induce them to continue. But with continued use, the effect diminishes, so patients need increased doses to produce the same results. This makes opioids very dangerous. It makes them potential killers.

Despite this, pain management (especially in North America) has come to rely on opioids. In the last two decades, the number of US and Canadian prescriptions for opioids has quadrupled—and so have the concomitant deaths.7–13

Opioids are prescribed much more in North America than in the rest of the world. In the USA, 80% of patients undergoing minor surgery (knee arthroscopies, carpal tunnel release and others) are prescribed opioids. In addition, 30% of all those who visit the emergency room are prescribed opioids on discharge. But there is evidence that Europe and other parts of the world are catching up, with an enormous increase in prescriptions.14

In my own country, The Netherlands, there has been a fivefold increase since 2008, and the number of overdoses has increased tenfold.15

HOW COULD THIS HAVE HAPPENED?

It used to be the praxis (in conventional pain protocols) that paracetamol was followed by or combined with anti-inflammatory drugs (NSAIDs). Opioids were only prescribed for direct operative care and for cancer care.

But then came an aggressive marketing campaign that emphasised the potential side effects of NSAIDs, such as stomach bleeding and the increased risk of heart attack. (The continued use of NSAIDs, beyond a week or more, was indeed shown to be associated with a modest increase in
the risk of heart attack.) Although such side effects of NSAIDs were minor, and mainly associated with long-term use, oxycodone was eagerly embraced as an alternative. But there were other factors.

There were claims, based on questionable research, that opioids were safe and non-addictive.

Hospitals were changing their policy about pain management. Visual Analogue Scores (VAS) for pain now monitor the evolution of pain, and VAS is used to compare the quality of care between hospitals—the better the VAS score, the better the quality of care.

Insurance companies were applying pressure to reduce hospital time after surgery. Since discharge depends largely on pain, hospitals adopted aggressive pain protocols, for example, after a total knee replacement.

There was a new concept about the patient’s ‘right’ to be ‘free from pain’. And there is the modern physician’s fear of litigation brought by patients who feel pain after surgery, which has inclined them to prescribe heavy medication.

**CAN PATIENTS DO WITHOUT OPIOIDS?**

Let’s consider some figures.

There is a substantial variation between physicians, hospitals and cultures about the management of pain relief after skeletal trauma.

A comparative study of postoperative pain after ankle fracture fixation revealed that, 2 weeks after surgery, 63% of American patients were still taking strong opioids, compared with 0% of Dutch patients. However, patients using non-opioid medication were more satisfied about pain relief, compared with patients using opioids.

In another randomised clinical trial, patients recovering from extremity surgery and treated with acetaminophen/paracetamol only had a mean pain satisfaction score of 8.3 compared with 8.5 for the acetaminophen/paracetamol-plus-tramadol group. And they experienced fewer adverse affects. This suggested that acetaminophen/paracetamol only was preferable to acetaminophen/paracetamol-plus-tramadol.

Both trials demonstrate that patients are equally satisfied with safer and non-addictive pain medication after surgical treatment for musculoskeletal trauma.

**WHAT ACTIONS SHOULD WE TAKE?**

I think we can conclude that the North American opioid epidemic is based on misconceptions about opioids. These misconceptions are finding their way around the world, and they must be stopped.

A pain relief strategy is needed, as are standardised prescription protocols. We need to explain all these to our patients, clearly and simply, and we need to encourage their resilience, what we might call their traditional ‘tough mindedness’.

In most hospitals the anaesthesiologist takes charge of pain management for the first 24 hours. But it is we, orthopaedic surgeons, who are responsible for continuation and for ‘home medication’. The ‘oxy’ case has highlighted these responsibilities. We can no longer hide behind pain protocols that were created by others. We must ourselves become involved by:

- Getting involved in our institution’s pain team and its postoperative pain protocols—making sure they minimise opioid use!
- Reducing home medication to a minimum.
- Ensuring that persistent or chronic pain is referred to the pain team. This should not be treated by orthopaedic surgeons.
- Explaining to our patients that pain—up to a certain level—is not always bad, and that not all pain requires medication!

**ARE WE TO BLAME, IF WE DO NOT DO SOMETHING?**

We have a moral duty and, if we see something going wrong, we should do something about it.

After all, we are the centre of the system. We have a moral and professional duty to act in the best interest of our patients. Our patients must be able to trust that we will do the right thing.

And doing the right thing right, will certainly brighten up our Christmas!

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