

Editorial

Humanity and Science in Pain Management

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Pain is known to be the first medical consultation pattern and a global health concern. Therapeutic medicine was for a long time interested in treatment of disease more than relieving patients. Although medically correct, this approach remains insufficiently human. Unfortunately, such conducts still practiced actually. For example, in emergency, when a patient with acute appendicitis arrives, he's accusing an abdominal pain. So, pending diagnosis using all necessary examinations, the patient still suffering, because the medical team is concentrated on diagnosis establishment more than relieving pain. Such approaches were based for a long time on the convenience that if pain is relieved, the diagnosis became more difficult. It's actually known that this idea is absolutely false. This is the proof that, despite of all efforts, pain management still insufficient. Whatever the type of pain or its origin, suffer pain is causing significant health and social problems with evidence that patients are receiving inadequate care. Several reflections are raised.

Progress in understanding mechanisms involved in the onset of pain improved the management. In fact, distinguishing acute pain and chronic pain is fundamental basis. Defining pain is the first step to manage it. If acute pain (like acute inflammation, postoperative pain, or trauma) therapies are overall excellent, they still not satisfying in chronic pain such as neuropathic pain, complex regional pain syndrome or fibromyalgia. The first reason is that acute pain mechanisms are clearer than chronicles. The second reason, also related to the first, is pharmacotherapies availability. The necessity of improve basic understanding of the mechanisms underlying pain is likely to suggest new avenues for the development of novel pharmacotherapies. Epigenetic abnormality in the spinal cord during neuropathic pain is confirmed since few years. Epigenetic modifications in the spinal cord are caused by long-term increases in chemokine expression. Nerve injury activates primary afferent nociceptors, which transmit information to the dorsal horn of the spinal cord. Activation of secondary neurons in spinal pathways by long-term chemokine expression is capable of inducing epigenetic modifications. The final result is central sensitization leading to a neuropathic pain-like state. The complexity of pain mechanisms explains the multitude of analgesics and numerous used protocols.

Perioperative period pain management takes on particular aspects. If both surgeons and anesthetists were concentrated for a long time on treatment of acute postoperative pain, it's actually known that the approach must be focused on preventing both acute

and chronic postoperative pain. Multimodal analgesia is the basis in preventing and treating acute postoperative pain. All available products are more or less associated in many protocols. This allows potentiation of analgesic effects while reducing the side effects the respective used agents. The multimodal technique is based on the classification of pain intensity and duration. Such distinction allows choosing analgesics drugs and duration of treatment. The painkillers range is very wide from paracetamol to morphine. Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) such as acetaminophen and ibuprofen and opioids like morphine are the most frequently used conventional analgesics. Administered systemically, they often cause systemic side effects that limit their use, like the nausea and constipation caused by opioids. So, more solutions are needed.

Regional anesthesia is gaining more and more place in postoperative pain management. Regional technique merit more interests in our approaches. If its efficiency is not discussed in the treatment and prevention of acute postoperative pain, its role in the chronic pain prevention is increasingly studied and accepted. Chronic postoperative pain is frequent and sometimes severe, but is often neglected. The risk of developing persistent postsurgical pain varies from 5% after minor surgery to 50% for phantom limb pain or post-mastectomy pain syndrome. Persistent pain may vary in severity, only mild to severely disabling. Pain pathways, and hence pain perception, can be modulated, sensitized and permanently altered. Chronic pain, postoperative Hyperalgesia (pain felt more intensely) and allodynia (a painful sensation after a stimulus that normally is not perceived as pain) after surgery, are the consequence of neuronal plasticity which is corresponding to permanent synaptic neuronal changes in the peripheral and central nervous system. Such neural modifications are in response to tissue trauma and nerve injury. In regional anesthesia, local anesthetics are locally applied to interrupt the conduction of pain impulses from the site of injury to the central nervous system. This may prevent the sensitization described above. Epidural and spinal anesthesia act at the nerve roots while nerve blocks, plexus anesthesia and wound infiltration inhibit peripheral nerves. Systemically (for example intravenously) administered local anesthetics might also exert beneficial effects including preventing chronic pain, hyperalgesia and allodynia.

It's known that epidural anesthesia may reduce the risk of developing chronic pain after thoracotomy in about one patient out of every four patients treated. Also, paravertebral block may reduce the risk of chronic pain after breast cancer surgery in about one out of every five women treated. But such conclusions are significantly suffering from methodological weaknesses. More studies with high methodological quality still needed. The wound infiltration deserves more interest in the current approaches. In the most incisions, the wound infiltration often allows better control of acute postoperative pain and would have a positive effect on the prevention of chronic pain. Using local anesthetics of long-acting, single injections seem to allow analgesic effects comparable to continuous injections through catheter. The simplicity of this technique encourages wider use.

However, more studies are needed to define terms of use and its efficiency in the chronic pain prevention.

Regional anesthesia technique seems to be interesting in emergency pain. Some technique are simple such iliofascial blocks or three in one block. They provide adequate analgesia in post-traumatic pain in femur neck fractures. Pain in emergency departments is a very wide field of research. Pending completion of high-quality studies and the development of guidelines, all health actors in emergency services should receive quality training in the assessment and treatment of pain.

Pain in cancer is often chronic type. Usually, opioids use allows analgesia despite of some side effects can sometimes be debilitating. Wide researches may allow those patients management.

For all previous reflections, it remains clear that pain management, whether acute or chronic, is still insufficient. Some solutions may be suggested. The first element on which we must act is the training of

health personal. A general revision of the basic study of healthcare professionals should be encouraged. We must learn to future generations that the pain management is as important as treating any other symptoms or diseases. We suggest also that each department develops pain management protocols and provides their periodic evaluation. Anesthesiologists have a considerable role to play in the treatment of pain whether surgical or not. They may make repetitive training to health workers in structures where they work. They have also made the simple techniques of regional analgesia easier to achieve for practitioners in emergency departments. More researches still needed in these philosophies.

In summary, to manage pain as well as possible, health personals need to be humans and scientists. Humanity alone is inadequate because it may cause weakness in treatment. The only science is also inadequate because it never allows a holistic approach. Thus, humanity associated to science represents the guarantee of better future management of pain in all its aspects.