New therapeutic strategies in the management of chronic pain related to osteoporosis

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Summary

Osteoporosis inevitably accompanies the progression of age.
Chronic pain seems to have the characteristics and properties of nociceptive and sensory neuropathic pain.
The increasing use of opioids in the elderly for the treatment of osteoarticular pain is now accepted as a first choice, especially after the 2007 release of the recommendations of the American Heart Association, which indicated "the short-term use of narcotic analgesics as the first step in pain management".
Opioids are generally reserved for moderate or severe pain that has not responded to non-steroidal anti-inflammatory drugs. They are often used in combination with adjuvants or other analgesic agents.
The use of fentanyl is particularly indicated in cases of chronic pain with a predominantly nociceptive character. As a transdermal patch, it is available in five different dosages. Once applied, each patch releases the drug continuously for up to 72 hours, after which it must be replaced. The proven efficacy, lack of roof effect and a favorable side-effect profile are among the key qualities of fentanyl as a treatment of moderate to severe chronic pain.
Transdermal administration is independent of food intake or intestinal absorption capacity. It is therefore ideal for patients with difficulty swallowing or with gastrointestinal disorders.
The multi-layer patch has a control membrane that allows a more regular release of the active substance, preventing the effects of overdoses from sudden emptying.
A new generation patch can be defined for the management of moderate to severe chronic pain that provides for continuous release of fentanyl at a systemic level up to 72 hours.

KEY WORDS: osteoporosis; chronic pain; transdermal therapy; fentanyl.

Osteoporosis inevitably accompanies the progression of age. In practice, all individuals over the age of 50 have a certain degree of osteoporosis.
The most exposed are women after menopause.
Usually asymptomatic, it manifests with symptom pain only when it causes crushing or micro-fracture of the bones.
It is usually located at the level of the vertebral column, the hand and the neck of the femur.
Thinning and fragility of the bones predispose to spinal column deviations and fractures of the femoral neck.
Chronic pain seems to have the characteristics and properties of nociceptive and sensory neuropathic pain (1).
The increasing use of opioids in the elderly for the treatment of osteoarticular pain is now accepted as a first choice, especially after the 2007 release of the recommendations of the American Heart Association, which indicated "the short-term use of narcotic analgesics as the first step in pain management".
The guidelines reviewed by the American Geriatrics Society for the management of persistent pain in the elderly recommend "to rarely take into consideration non-selective NSAIDs and selective COX-2 inhibitors with caution; conversely they recommend taking opioid therapy into consideration for all people with moderate to severe pain" (2).
The side effects of NSAIDs are not negligible because, due to their low gastric tolerability, they are contraindicated in the presence of gastroduodenal ulcer; they must also be avoided in case of renal insufficiency, heart failure, cardiovascular risks and treatment with anticoagulation or antiplatelet therapy (3).
Opioids are generally reserved for moderate or severe pain that has not responded to non-steroidal anti-inflammatory drugs. They are often used in combination with adjuvants or other analgesic agents.
The most common side effects of opioids are drowsiness and mental confusion, constipation, nausea and vomiting.
The therapeutic efficacy of opioid drugs in many situations of chronic pain (osteoporosis, rachialgia with neuropathic component) is now confirmed by numerous studies.
The use of fentanyl is particularly indicated in cases of chronic pain with a predominantly nociceptive character.
It is a potent pure and selective agonist analgesic of the mu opioid receptor, with a power of 50 to 100 times that of morphine.
Its physicochemical characteristics (low molecular weight, lipophilic characteristics) make it suitable for use by controlled transfer transdermal route. Fentanyl is on the market as a transdermal patch and as a transmucosal absorption product. As a transdermal patch, it is available in five different dosages. Once applied, each patch releases the drug continuously for up to 72 hours, after which it must be re-

placed. The proven efficacy, lack of roof effect and a favorable side-effect profile are among the key qualities of fentanyl as a treatment of moderate to severe chronic pain. It is recommended for use in patients who have demonstrated opiate tolerance and who have a stable need for opioids.
Transdermal administration is independent of food intake or intestinal absorption capacity. It is therefore ideal for patients with difficulty swallowing or with gastrointestinal disorders. The protracted release over time, the long duration of action, the lower number of administrations, combined with the simplicity of use, ensure greater patient compliance.
The multi-layer patch has a control membrane that allows a more regular release of the active substance, preventing the effects of overdoses from sudden emptying.
It is without a liquid component and therefore there can be no loss of the active ingredient from the system and is made up of tested materials that have been widely used in other transdermal products and thus have a well established safety.
Among the main features of the multi-layer patch, we recall that the quantity of active ingredient contained in it is the lowest compared to all the fentanyl based patches marketed, minimizing the potential for abuse and overdosing.
The multi-layer patch comprises the addition of a membrane which regulates the release controlled by the matrix-like system. Therefore, a new generation patch can be defined for the management of moderate to severe chronic pain that provides for continuous release of fentanyl at a systemic level up to 72 hours.

References

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