



이 상 현

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Pharmacological Management of Musculoskeletal Pain

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Chronic musculoskeletal pain arise from a variety of causes, and pose great challenges for treating physician. Especially, in case of older individuals, musculoskeletal pain such as back pain, knee pain, shoulder pain and hip pain can cause disability and significantly may disturb daily activity of livings.

Chronic musculoskeletal pain result from a complex interaction of mechanical, biochemical, psychological, and social factors. Cause of pain may differ in nature, origin and pathophysiology even in same site of pain such as knee pain among individuals. Therefore detailed understanding of pain sources and mechanism in each individual should be sought by careful physical examination, laboratory data and imaging studies.

Pharmacological managements for treating musculoskeletal pain include systemic or local therapy such as topical therapy or intra-articulate injections in arthritis patients. The medications used for musculoskeletal pain are simple analgesics such as acetaminophen, non-steroidal anti-inflammatory drugs(NSAIDs), opioids, muscle relaxants, tricyclic antidepressants(TCA), selective serotonin reuptake inhibitors(SSRI), and anticonvulsants such as pregabalin and gabapentin.

Mechanistic evaluation of pain nature (peripheral, spinal, supraspinal origin) should be followed by detailed pain history and examination.

In case of most common form of arthritis, osteoarthritic knee pain commonly arise from peripheral nociceptors at site of injury, which is the good target for NSAIDs and acetaminophen. This is reason why NSAIDs and acetaminophen are 1st line recommended drugs in osteoarthritic pain by many academic societies.

NSAIDs have advantage over simple analgesics such as acetaminophen in terms of rapid action and pain killing efficacy with convenient dosing. But NSAIDs have serious, sometimes fatal side effects such as increasing tendency of cardiovascular events and various GI complications such as bleeding and obstructions. Therefore physicians should weigh benefits over harmful side effects in treating musculoskeletal pain before prescriptions. Presence of preexisting comorbidities as well as laboratory evaluation of hepatic and renal functions should be checked routinely when need for pharmacological management. Chronic pain may result from hyperactivity of neurons at the spinal dorsal horn that modulate and transmit pain. Through their attenuating effects on pain transmissions, and other pharmacological mechanisms, GABA inhibitors and sodium channel blockers effectively reduce chronic neuropathic pain. Pregabalin is the representative example of effective medication in musculoskeletal pain associated with fibromyalgia. TCA also inhibit the reuptake of serotonin and/or norepinephrine, which are known to related to downregulation of pain transmission at the supraspinal and spinal levels. SSRI has the same efficacy with TCA with little CNS adverse events. Cyclobenzaprine is the example of skeletal muscle relaxant showing efficacy in chronic musculoskeletal pain such as fibromyalgia, and Tizanidine is a centrally acting muscle relaxant that is particularly useful for managing myofascial-related low back pain and neck pain.

Topical NSAIDs are increasing popular agents that are effectively reduce pain associated with osteoarthritis with advantages of avoiding systemic toxicities associated with oral formulations.

Although physicians frequently encounter chronic musculoskeletal pain in daily practice, it is very difficult to choose adequate pharmacologic options in each patient. As always, the physicians must tailor the safest and effective treatment option for each patient considering their comorbidities and pain mechanisms.

Key Words: NSAIDs, Arthritis, Fibromyalgia

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