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Medications for osteoporotic pain

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Patients with osteoporosis may suffer from pain, and chronic persistent pain stimuli irritates the nervous system to develop to a vicious cycle of chronic pain [1]. If there are compression fractures of vertebrae which are weakened by osteoporosis, back pain from that injury would affect the quality of life, and sometimes it may persist for a long period and not be well controlled. Therefore, prevention and treatment of osteoporosis in such patients is a challenge, and diagnosing and treating osteoporosis in advance is one task in the prevention and treatment of pain in such patients.

For the treatment of osteoporosis, medications like calcitonin, parathyroid hormone, estrogen administration, etc. have been used, and bisphosphonates are also commonly used. Bisphosphonates bind to the minerals of the bone and inhibit osteoclastic action, so they are known to inhibit bone resorption. Until recently, they were the most effective pharmacological agents for the prevention and treatment of osteoporosis. But they have remained medications that are difficult to take, even though many improved types have been developed. Patient compliance is still a big problem with any those who have difficulty due to side effects such as gastrointestinal discomfort [2].

Among the drugs approved by the U.S. Food and Drug Administration for osteoporosis, denosumab, a receptor activator of the nuclear factor kappa B ligand (RANKL) inhibitor has been introduced [3]. It works in receptor-based action during bone remodeling. This drug could overcome the compliance problems with patients, as it is administered biannually. In this issue, medications for the treatment of osteoporosis, with related mechanisms, are reviewed with an emphasis on the introduction of the newly approved drug denosumab [4]. It could become another essential weapon in the treatment of pain from osteoporosis along with bisphosphonates [5].

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