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Tramadol Extended-Release Tablets

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Pharmacological treatment of chronic painful conditions, such as osteoarthritis, remains a challenge because of the serious adverse effects and marginal efficacy of the available options. Extended-release (ER) tramadol is one of the many options promoted for the treatment of chronic pain due to osteoarthritis. Tramadol is considered to be an atypical opioid analgesic as it not only binds to the central μ-opioid receptor, but also inhibits the reuptake of serotonin and norepinephrine.

Immediate-release (IR) tramadol requires four-times-daily administration to maintain constant daily blood levels. Tramadol ER provides steady-state blood levels with once-daily administration and lower peak levels than does the four-times-daily administration of tramadol IR. The ER preparation is likely to provide equal efficacy to that provided by the IR preparation taken four times daily and may improve compliance. However, unlike NSAIDs, tramadol provides analgesia only and has no effect on the pathological condition of osteoarthritis; hence, having constant 24-hour blood levels is of unproven value. In fact, one could argue that the timing of analgesic administration for the pain of osteoarthritis should be limited to active times of the day when pain provides the greatest challenge and should be withheld during times of inactivity to limit potential adverse effects and medication tolerance.

Although tramadol does not cause gastrointestinal bleeding, platelet dysfunction, and renal impairment as do NSAIDs (often the mainstay of treatment for osteoarthritis), it does produce significant adverse events. A recent meta-analysis of tramadol for the treatment of osteoarthritis found that the drug produced 2.6 times the adverse events of placebo, and 1 in 8 patients taking it experienced major adverse effects that forced them to stop using the medication.[1] This review of 11 randomised controlled trials of tramadol in osteoarthritis also assessed efficacy. Although the review reported a clear statistically significant decrease in pain with the use of tramadol versus placebo (−8.5mm on a visual analogue scale, 95% CI −12.0, −5.0),[1] this difference is unlikely to be clinically significant as 12mm is the minimal difference patients can appreciate as a clinical difference in pain.[2,3] Furthermore, in the only study not sponsored by the manufacturer of tramadol, the active comparison, paracetamol, provided greater analgesia than tramadol and is known to have minimal adverse effects and a significantly lower cost.[4]

When balancing safety, efficacy and cost, paracetamol remains the drug of choice for the treatment of chronic pain due to osteoarthritis. Tramadol ER may be a second-tier option when paracetamol cannot be used and the adverse effects of NSAIDs are prohibitory. In those patients, it is likely to provide equal analgesia to four-times-daily tramadol IR. ▲

References

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