

Perioperative Prescription of Tramadol

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Tramadol is a narcotic-like pain reliever. It is a synthetic, centrally acting analgesic drug with two distinct, synergistic mechanisms of action. Usually, Tramadol is used to manage moderate to severe surgical pain but it has shown anti-shivering effect in some setting. Tramadol is a weak opioid agonist and an inhibitor of monoamine neurotransmitter reuptake. It could inhibit the reuptake of 5-hydroxy tryptamin, Norepinephrine, and Dopamine [1].

Many drugs have been used to treat shivering, including opioids, Doxapram, Tramadol, Clonidine, physostigmine and Nefopam [2]. Among opioids, based on our observation; Meperidine is the most applied and evaluated.

Actually, Physicians attempt to keep normothermia for surgical patients in perioperative period but combination of anaesthetic induced thermoregulatory impairment and exposure to a cool environment makes most unprotected patients hypothermic. Pharmacological controls on body temperature like tramadol are an acceptable modality. The effect of tramadol on shivering control is comparable with Meperidine [1-2]. Evidence suggested that Kappa opioid receptors play an important role in the modulation of post operative shivering of Meperidine [3] but researchers believe analgesic and anti-shivering potency of Tramadol is mediated weakly through its effect on the Mu-opioid receptor. Tramadol by effecting on 5-HT₃ and noradrenergic receptors; exert its significant role on shivering suppression and pain management. Tramadol

releases 5-hydroxy tryptamin and stimulates receptors in central nerves system and an effect as an anti-shivering drug to maintain normothermia in perioperation time [1]. Tramadol activates the descending inhibitory pathways in central nervous system that producing anti nociception [3]. Cerebral adrenoreceptors are thought to play the main role in the attenuation of post operative shivering by Tramadol [4].

The most important risk factors for a patients developing intra operative hypothermia were the thermal status of the patient before surgery, body size and age of the patient, operating room temperature, the site and size of the surgical Exposure and the presence of neuropathy [3-4]. In several studies, prescribed Tramadol effectively relieved moderate to severe postoperative pain. Its overall analgesic efficacy was comparable to that of Alfentanil or morphine and superior to Pentazocine [5]. We find a significant pain suppression effect of tramadol in our practice that was comparable with prescription of intravenous Meperidine on patient demand (PRN).

The most common adverse side effects of the Tramadol are nausea, vomiting, dizziness, sweating, and dry mouth [1,5]. The most observed event of Tramadol prescription was nausea and vomiting in our practice. It was most prominent in young female. Tramadol should not be prescribed if patient has severe respiratory problems, neurologic disorder like seizure, gastrointestinal obstruction, or if patient has recently used MAO inhibitor drugs and sedative-hypnotic medication. Tramadol has

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not clinically relevant side effects on hemodynamic and cardiovascular or respiratory parameters at average dosage [2,5].

Tramadol provided effective analgesia in children and adults for both in patient and day surgery. It was generally well tolerated in clinical trials but, Physician should be aware that tramadol are FDA approved only for use in adults. Based on FDA advice, we do not prescribe Tramadol for use in adult younger than 18 years old due to frequent adverse effect, although; children younger than 12 years old can take Tramadol according to FDA recommendation [1,5].

Parenteral or oral tramadol has proved to be an effective and well tolerated in the perioperative time [4-5]. In our clinical setting, we use Tramadol (0.5-1 mg/kg up to max dose 100 mg) orally before the surgery in premedication prescription and after the operation up to 3 doses (Maximum Dose: 300 mg per day), especially in young adult male. It has not clinically relevant adverse effects on cardiovascular and respiratory parameters. Tramadol was well tolerated in our clinical setting because; we do not prescribe it for use in adult younger than 18 years old and female. Actually, we used Tramadol in middle age 30- 60 years old male. We find out decrease in post operation shivering, acceptable post operation pain management (decrease in visual analogue scale and narcotic prescription). We concluded, Peri-operative prescription of Tramadol in young man could decrease

post-anaesthesia shivering beside acceptable post-operation pain management and better patient satisfaction.

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