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Intranasal Metoclopramide

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Metoclopramide is a drug that promotes gastrointestinal motility and also has antiemetic effects. It acts by blocking the dopaminergic receptors located in the chemoreceptor trigger zone of the brain, as well as the peripheral receptors in the smooth-muscle tissue of the gastrointestinal tract. Because of it antiemetic activity metoclopramide is used extensively, both alone and in combination with other drugs, for the prevention and treatment of emesis induced by cancer chemotherapy.

Metoclopramide is readily absorbed through the nasal mucosa and recently a new intranasal formulation has been developed.

Intranasal metoclopramide and intravenous plus intramuscular metoclopramide demonstrate similar efficacy in controlling acute emesis in patients with cancer treated with moderately-emetogenic cisplatin chemotherapy. Intranasal metoclopramide or oral metoclopramide, both with dexamethasone, are equally effective in the control of delayed emesis induced by moderately-emetogenic chemotherapy. The results indicate that there is substantial therapeutic equivalence between the metoclopramide regimens studied - nasal, parenteral and oral. The nasal formulation showed good local tolerability, with no changes in nasal mucosa.

In conclusion, after moderately-emetogenic chemotherapy the new metoclopramide nasal spray formulation represents a valid alternative antiemetic prophylaxis to both the parenteral and oral formulations. Furthermore, although equally efficacious, the parenteral formulation is certainly more invasive and oral administration is often impracticable precisely because of the symptoms of the patients. Given the pharmacodynamic and pharmacokinetic characteristics of metoclopramide therapy by nasal spray, as well as its good tolerability, ease of administration and low cost, it may also be used in combination with other antiemetic drugs, or in the treatment of dyspepsia in cancer patients. ▲