Dimenhydrinate is a medicine from the group of H2 antihistamines and is used to treat nausea and vomiting. According to the chemical structure, it is classified in the group of ethanolamine. In addition to antihistaminic effect, this drug also exerts an antidepressant and antiemetic effect (relieve vomiting). Because of its antiemetic effects it is often used in the treatment of kinetosis (motion sickness).

**Contraindications and precautions**

Dimenhydrinate is contraindicated in the following conditions:

- Pheochromocytoma (*a tumor of the adrenal gland*)
- Hypertrophy of prostate
- Porphyria
- Epilepsy
- Acute exudative and bullous skin reactions
- Hypersensitivity to dimenhydrinate or any other similar substance
- Children younger than 2 years
- Closed-angle glaucoma
- Pregnancy
- Breastfeeding
- Co-administration with drugs that are used to treat heart diseases
- Concomitant use with alcohol
- Concomitant use with sedatives or anesthetics
Dimenhydrinate should be administered cautiously in the following situations:

- In patients older than 70 years (elderly patients are more sensitive to this drug, and because of that they may experience hypotension, dizziness and constipation)
- In patients who have severe kidney or liver problems. Dimenhydrinate is metabolized by the liver and eliminated by the kidneys. So, if you have damage of these organs, Dimenhydrinate may be accumulated in your body which can lead to its toxic effects.
- In patients with hyperthyroidism.
- In patients who are allergic to the drug called pamabrom (a water pill). A case of erythema multiforme in patients who are allergic to pamabrom but took Dimenhidrinate was reported.¹
- In patients with hypertension and bradycardia.
- In patients with hypomagnesaemia.
- In patients with hypokalemia.

### Dimenhydrinate, pregnancy and breastfeeding

One study compared the antiemetic effects of Dimenhydrinate and ginger in pregnant women and found that ginger is as effective as Dimenhydrinate in treating nausea in pregnant women. Ginger, of course, has much better safety profile than Dimenhydrinate.² Another study compared the effects of Dimenhydrinate and vitamin B6 and found that Dimenhydrinate is much more effective in the treatment of nausea than vitamin B6.³ One clinical study in pregnant women who took this drug during the first trimester, revealed that this drug causes no teratogenic effects.⁴ However, this drug must not be used during the last week of pregnancy because it can cause uterine hyperstimulation which can significantly slow down the fetal heart rate!

Dimenhydrinate is excreted into breast milk. In studies that have investigated the effects of Dimenhydrinate in infants whose mothers took this drug, it was found that these infants are at higher risk for irritability and colic symptoms.

### Dosage

The usual dose for patients older than 14 years is 50-100 mg half an hour before the planned trip. If nausea persists, you can take this drug again after 6 hours.

In children aged 5-14 years old, the recommended dose is 25-50 mg half an hour before the trip. You can crumble the pill before giving it to your child.

Dimenhydrinate can be taken regardless of meals.

### Interactions

Dimenhydrinate must not be used in combination with the following drugs:

- **Narcotic analgesics** (e.g. propoxyphene). Concomitant use increases the risk of neurological side effects.
- **Preparations of potassium.** Concomitant use increases the risk of gastrointestinal side effects.
- **Topiramate and zonisamide** (medicines used to treat epilepsy). Co-administration of Dimenhydrinate with these drugs increases the body temperature while reducing sweating.
This can lead to heat stroke!

- Sodium oxybate (a drug used in the treatment of cataplexy attacks). Concomitant use increases the risk of neurological side effects.
- Tricyclic antidepressants. Co-administration of these drugs leads to an increased risk of anticholinergic side effects.
- Sedatives. Dimenhydrinate may increase the sedative effect of these drugs.
- Aminoglycoside antibiotics (streptomycin, gentamicin, amikacin and kanamycin). These drugs can cause ototoxicity (loss of hearing) and Dimenhydrinate can mask the symptoms.

### Side effects

Dimenhydrinate may cause the following side effects:

- Blurred vision
- Low blood pressure
- Ringing in the ears
- Excitation (insomnia, nervousness and restlessness)
- Xerostomia
- Anemia
- Leukopenia
- Impaired concentration
- Confusion
- Hallucinations
- Cholestatic jaundice
- Urinary retention
- The termination of milk production in nursing mothers

### References

1. NCBI link 1
2. NCBI link 2
3. NCBI link 3
4. NCBI link 4