

Chapter 47 Anthelmintic Drugs

1. A 32-year-old man is diagnosed with whipworm disease after he spent the summer working outside without shoes. Which would be the best treatment option?
 - Diethylcarbamazine
 - Pyrantel pamoate
 - Thiabendazole
 - Mebendazole
2. Which combination would be appropriate to use for preventative chemotherapy in countries with endemic filariasis and endemic onchocerciasis?
 - Ivermectin and diethylcarbamazine
 - Pyrantel pamoate and mebendazole
 - Albendazole and diethylcarbamazine
 - Ivermectin and albendazole
3. Which statement best describes the mechanism of action of pyrantel pamoate?
 - Inhibits glucose uptake leading to parasite death
 - Binds to β -tubulin and inhibits the assembly of the microtubules polymerization in the parasite
 - Inhibits the mitochondrial phosphorylation of adenosine diphosphate (ADP) in the parasite
 - Acts as a depolarizing neuromuscular blocking agent leading to paralysis of the worm
4. Which is the best treatment option for treatment of cutaneous larva migrans?
 - Niclosamide
 - Pyrantel pamoate
 - Diethylcarbamazine
 - Ivermectin
5. Which medication used to treat river blindness targets chloride channels and can cause a Mazzotti reaction?
 - Pyrantel pamoate
 - Albendazole
 - Ivermectin

- Praziquantel
6. A 48-year-old immigrant from Mexico presents with seizures and other neurologic symptoms. Eggs of Taenia solium are found in a stool specimen. A magnetic resonance image of the brain shows many cysts, some of which are calcified. Which drug would be of benefit to this individual?
- Ivermectin
 - Albendazole
 - Pyrantel pamoate
 - Diethylcarbamazine
7. Which drug works by increasing the permeability of the cell membrane to calcium?
- Niclosamide
 - Praziquantel
 - Albendazole
 - Ivermectin
8. When used for treatment of taeniasis, a laxative is usually administered prior to oral administration of which drug?
- Diethylcarbamazine
 - Niclosamide
 - Mebendazole
 - Pyrantel pamoate
9. A 37-year-old man presents with diarrhea and gastrointestinal bleeding. Eggs of Schistosoma mansoni are found upon examination of a stool specimen. The patient has a history of seizures and is currently on phenytoin. Metabolism of which medication will be increased due to his current drug regimen?
- Thiabendazole
 - Niclosamide
 - Ivermectin
 - Praziquantel
10. When used for longer treatment, such as hydatid disease, which medication is associated with risks of hepatotoxicity and agranulocytosis?
- Albendazole

- Niclosamide
- Ivermectin
- Diethylcarbamazine



1.

Correct Response: Mebendazole

Explanation: Mebendazole is the drug of choice for treating whipworm. Thiabendazole is not a preferred treatment option for many nematode infections due to its toxicity.

2.

Correct Response: Ivermectin and albendazole

Explanation: Ivermectin and albendazole should be used as combination therapy for filariasis in patients that could also be infected with onchocerciasis due to the propensity of diethylcarbamazine to accelerate blindness in patients at risk for river blindness.

3.

Correct Response: Acts as a depolarizing neuromuscular blocking agent leading to paralysis of the worm

Explanation: Pyrantel pamoate acts as a depolarizing, neuromuscular blocking agent, causing release of acetylcholine and inhibition of cholinesterase, leading to paralysis and intestinal expulsion of the worm.

4.

Correct Response: Ivermectin

Explanation: Ivermectin is the drug of choice for treatment of cutaneous larva migrans, which is usually self-limiting; however, treatment will shorten the course of the disease.

5.

Correct Response: Ivermectin

Explanation: Ivermectin targets the parasite's glutamate-gated chloride channel receptors. Chloride influx and hyperpolarization occur, resulting in paralysis of the worm. The killing of the microfilaria in onchocerciasis can result in a dangerous Mazzotti reaction. This can happen with ivermectin or diethylcarbamazine.

6.

Correct Response: Albendazole

Explanation: The symptoms and other findings for this patient are consistent with neurocysticercosis. Albendazole is the drug of choice for the treatment of this infestation. The other drugs are not effective against the larval forms of tapeworms.

7.

Correct Response: Praziquantel

Explanation: Praziquantel works by increasing the permeability of the cell membrane to calcium, causing contracture and paralysis of the parasites.

8.

Correct Response: Niclosamide

Explanation: A laxative is administered prior to oral administration of niclosamide to purge the bowel of all dead segments and to enhance digestion and liberation of the ova.

9.

Correct Response: Praziquantel

Explanation: Dexamethasone, phenytoin, rifampin, and carbamazepine may increase the metabolism of praziquantel.

10.

Correct Response: Albendazole

Explanation: When used in short-course therapy, albendazole is associated with adverse effects such as headache and nausea. When used for treatment of hydatid disease (3 months), there is a risk of hepatotoxicity and, rarely, agranulocytosis or pancytopenia.