

# ANTIPROTOZOAL DRUGS

Protozoa are single-celled organisms that are present in soil and water. They may be transmitted to or between humans through contaminated food or water, sexual contact, or insect bites. There are many types of protozoal infection, each of which causes a different disease depending on the organism involved. Trichomoniasis, toxoplasmosis, cryptosporidium, giardiasis, and pneumocystis pneumonia are probably the most common protozoal infections seen in the United Kingdom. The rarer infections are usually contracted as a result of exposure to infection in another part of the world.

Many types of protozoa infect the bowel, causing diarrhoea and generalized symptoms of ill-health. Others may infect the genital tract or skin. Some protozoa

may penetrate vital organs such as the lungs, brain, and liver. Prompt diagnosis and treatment are important in order to limit the spread of the infection within the body and, in some cases, prevent it from spreading to other people. Increased attention to hygiene is an important factor in controlling the spread of the disease.

A variety of medicines is used in the treatment of these diseases. Some, such as metronidazole and tetracycline, are also commonly used for their antibacterial action. Others, such as pentamidine, are rarely used except in treating specific protozoal infections.

## How they affect you

Protozoa are often difficult to eradicate from the body. Drug treatment may

therefore need to be continued for several months in order to eliminate the infecting organisms completely and thus prevent recurrence of the disease. In addition, unpleasant side effects such as nausea, diarrhoea, and abdominal cramps are often unavoidable because of the limited choice of drugs and the need to maintain dosage levels that will effectively cure the disease. For detailed information on the risks and adverse effects of individual antiprotozoal drugs, consult the appropriate drug profile in Part 3 of the book.

The table below describes the principal protozoal infections and some of the drugs used in their treatment. Malaria, probably the most common protozoal disease in the world today, is discussed on the facing page.

## SUMMARY OF PROTOZOAL DISEASES

Disease	Protozoan	Description	Drugs
<b>Amoebiasis</b> (amoebic dysentery)	<i>Entamoeba histolytica</i>	Infection of the bowel and sometimes of the liver and other organs. Usually transmitted in contaminated food or water. Major symptom is violent, sometimes bloody, diarrhoea.	Diloxanide Metronidazole Tinidazole
<b>Balantidiasis</b>	<i>Balantidium coli</i>	Infection of the bowel, specifically the colon. Usually transmitted through contact with infected pigs. Possible symptoms include diarrhoea and abdominal pain.	Tetracycline/metronidazole/ di-iodohydroxyquinoline
<b>Cryptosporidiosis</b>	<i>Cryptosporidium</i>	Infection of the bowel, also occasionally of the respiratory tract and bile ducts. Symptoms include diarrhoea and abdominal pain.	No specific drugs but paromomycin, azithromycin, eflornithine may be effective.
<b>Giardiasis</b> (lambliaosis)	<i>Giardia lamblia</i>	Infection of the bowel. Usually transmitted in contaminated food or water but may also be spread by some types of sexual contact. Major symptoms are general ill health, diarrhoea, flatulence, and abdominal pain.	Mepacrine Metronidazole Tinidazole
<b>Leishmaniasis</b>	<i>Leishmania</i>	A mainly tropical and subtropical disease caused by organisms spread through sandfly bites. It affects the mucous membranes of the mouth, nose, and throat, and may in its severe form invade organs such as the liver.	Paromomycin Sodium stibogluconate Pentamidine Amphotericin
<b>Pneumocystis pneumonia</b>	<i>Pneumocystis jiroveci</i> (formerly called <i>Pneumocystis carinii</i> )	Potentially fatal lung infection that usually affects only those with reduced resistance to infection, such as those who are HIV-positive. The symptoms include cough, breathlessness, fever, and chest pain.	Atovaquone/Co-trimoxazole Pentamidine/Dapsone with trimethoprim
<b>Toxoplasmosis</b>	<i>Toxoplasma gondii</i>	Infection is usually spread via cat faeces or by eating undercooked meat. Although usually symptomless, infection may cause generalized ill-health, mild fever, and eye inflammation. Treatment is necessary only if the eyes are involved or if the patient is immunosuppressed (such as in HIV). It may also pass from mother to baby during pregnancy, leading to severe disease in the fetus.	Pyrimethamine with sulfadiazine or with azithromycin, clarithromycin, or clindamycin/spiramicin (during pregnancy)
<b>Trichomoniasis</b>	<i>Trichomonas vaginalis</i>	Infection most often affects the vagina, causing irritation and an offensive discharge. In men, infection may occur in the urethra. The disease is usually sexually transmitted.	Metronidazole Tinidazole
<b>Trypanosomiasis</b>	<i>Trypanosoma</i>	African trypanosomiasis (sleeping sickness) is spread by the tsetse fly and causes fever, swollen glands, and drowsiness. South American trypanosomiasis (Chagas' disease) is spread by assassin bugs and causes inflammation, enlargement of internal organs, and infection of the brain.	Pentamidine (sleeping sickness), Suramin eflornithine melarsoprol (sleeping sickness), Primaquine (Chagas' disease), Nifurtimox (Chagas' disease)