Comparative Symptoms and Transmission of Major Parasitic Diseases

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Comparative Parasitic Diseases and Clinical Symptoms

Organism	Disease(s)	Symptoms of the Disease
Species: *Trypanosoma brucei* (Genus: Trypanosoma)	– African Trypanosomiasis (Sleeping Sickness) – Animal Tryponosomiasis (Nagana)	The tsetse fly is the primary carrier of this parasite. The bite of this fly is extremely painful, but if it infects the bite with the parasite, then it will develop into a red sore called chancre. This is the first symptom. Then, the patient will experience the following symptoms: • Extreme fatigue • Fever • Irritability • Severe headaches • Aching muscles and joints • Swollen lymph nodes • Progressive confusion • Change in personality In some cases, the patient will also develop rashes. The symptoms do not show until 1 to 3 weeks after the infected bite and, if not treated, can lead to death within months. Animals infected by the parasite first develop chancres, but the difference in symptoms comes from the species of virus they are infected with. If the infected animal is infected with Trypanosoma brucei, then the symptoms will be mild and self-heal. (Centers for Disease Control and Prevention, n.d.).

Species: *Entamoeba histolytica* (Genus: Entamoeba)	– Amoebiasis	Early symptoms are mild and include diarrhoea, stomach cramping and pain. However, if amoebiasis develops further, then it will become Amebic dysentery, a severe form of the infection. At this stage, the patient will experience extreme stomach pains, bloody stool and fever. In the case of liver infection, the development of an abscess (pus) occurs. In rare cases, the infection will spread to other body parts like the lungs and brain.
Species: *Ascaris lumbricoides* (Genus: Nematode)	– Ascariasis	The roundworm responsible for this disease infects the intestines and lungs. In mild cases, there will be little to no symptoms. In severe cases, the symptoms will vary depending on the area infected. Lungs: Symptoms experienced will be similar to asthma or pneumonia, including persistent coughing, wheezing and shortness of breath. Intestines: In case of mild infection, the patient will experience slight abdominal pain, bloody diarrhoea, nausea and vomiting. If the patient is severely infected with a large number of worms, then the symptoms will include severe abdominal pain, weight loss, fatigue and expulsion of worms through vomit or stool.
Species: *Phthirus pubis* (Genus: Pthirus)	– Pediculosis pubis (Crabs or Pubic lice).	Symptoms for crabs include: • Itching • Inflammation • Irritation caused by itching • Black powder in underwear • Small spots of blood or small blue bruises are caused by the lice's bite on the skin of the thigh and abdomen. Itching is the most common symptom of this disease, and it worsens at night when the lice are most active.

Species: *Cryptosporidium sp.* (Genus: Cryptosporidium Tyzzer)	– Cryptosporidium infection (cryptosporidiosis)	Early symptoms include: • Watery diarrhoea • Dehydration • Lack of appetite • Weight loss • Stomach cramps or pain • Fever • Nausea • Vomiting
Species: *Wuchereria bancrofti* (Genus: Wuchereria)	– Filariasis	In some cases, the patients do not develop any symptoms, and the patients that develop symptoms experience the following: • Inflammation of lymphatic vessels • High fever • Shaking chills • Body ache • Swollen lymph nodes • Accumulation of excessive fluid (edema) in affected areas. Usually, the accumulation of fluids subsides when the symptoms wear off. Male patients can develop inflammation and painful swelling in the genitalia, testes, sperm track and sperm ducts.
Species: *Giardia intestinalis* (Genus: Giardia)	– Giardiasis	This disease can lead to the development of a variety of symptoms affecting the intestines: • Diarrhea • Foul-smelling and greasy stool • Dehydration • Stomach cramps and pain • Nausea • Weight loss Other less common symptoms include fever, itching, hives and swelling.

Species: *Necator americanus* (Genus: Necator)	– Hookworm disease	• Skin rash on feet • Fever • Coughing and wheezing • Abdominal pain • Diarrhea • Loss of appetite • Anemia • Weight loss
Species: *Leishmania braziliensis* (Genus: Leishmania)	– Cutaneous Leishmaniasis – Mucocutaneous Leishmaniasis – Visceral Leishmaniasis	The most common symptom is painless ulcers on the skin. • Ulcers in the mouth, nose and lips. • Runny or stuffy nose • Difficulty breathing • Nosebleeds • Weight loss • Weakness and fatigue • Fever • Enlarged spleen and liver • Decreased production of blood cells • Swollen lymph nodes • Other infections (World Health Organization, n.d.)
Species: *Plasmodium sp.* (Genus: Plasmodium)	– Malaria	The main symptoms of malaria are fever and flu-like symptoms, including: • Shaking chills • Head and muscle ache • Tiredness • Nausea • Diarrhea • Vomiting Malaria may also lead to anaemia and jaundice. Severe symptoms include kidney failure, seizures, confusion and coma.

Species: *Pediculus humanus* (Genus: Pediculus)	– Epidemic Typhus – Epidemic Relapsing Fever – Trench Fever	• Fever and chills • Headache • Rapid breathing • Body and muscle aches • Rash • Cough • Nausea • Vomiting • Confusion • Bleeding • Coma • Headache • Joint aches, muscle aches • Nausea and vomiting • Sagging on one side of the face (facial droop). • Stiff neck • Sudden high fever, shaking chills, seizure • Vomiting • Weakness: unsteady while walking The patient develops a sudden onset of: • Fever • Headache • Pain behind eyes • Weakness • Sore muscles and joints
Species: *Enterobius vermicularis* (Genus: Pinworm)	– Enterobiasis (Pinworm infection)	This infection often shows no infection, but the patients that develop symptoms include: • Itching of the anal or vaginal area. • Insomnia, irritability, teeth grinding and restlessness • Occasional stomach pain and nausea
Species: *Sarcoptes scabiei* (Genus: Sarcoptes)	– Scabies	Common symptoms include: • Severe itching • Pimple-like skin rash

Species: *Strongyloides stercoralis* (Genus: Strongyloids)	– Strongyloidiasis	• Abdominal pain • Bloating • Heartburn • Diarrhea and constipation • Dry cough • Skin rashes
Species: *Schistosoma sp.* (Genus: Schistosoma mansoni)	– Schistosomiasis – Chronic Schistosomiasis	Common symptoms include fever, chills, coughing and muscle pain. • Abdominal pain • Enlarged liver • Blood in stool and urine • Difficulty urinating
Species: *Toxoplasma gondii.* (Genus: Toxoplasma)	– Toxoplasmosis	Usually, there are no symptoms but when developed include: • Swollen lymph glands • Head and muscle pain • Fever • Inflammation in the lungs, heart and eyes.
Species: *Trichinella spiralis* (Genus: Trichinella)	– Trichinellosis	Symptoms vary from patient to patient and include: • Nausea • Vomiting • Fatigue • Fever • Diarrhea • Head and muscle pain • Chills • Coughing • Swelling of face • Constipation
Species: *Trichomonas vaginalis* (Genus: Trichonomas)	– Trichinosis (Trichinellosis)	This pathogen causes the same disease as above, so the symptoms are the same.

Species: *Trypanosoma cruzi* (Genus: Trypanosoma)	– Chagas disease	• Mild flu-like symptoms including fever, fatigue, head and muscle pain. • Rash • Loss of appetite • Diarrhea • Vomiting • Swelling • Enlarged glands (Clark et al., 2018)

References

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