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Opinion Article

Toxocariasis Impact and its Silent Threat on Human Health

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DESCRIPTION

Toxocariasis is a parasitic disease caused by roundworms of the genus *Toxocara*. It primarily affects humans but can also affect various animal species. While often asymptomatic or mild, toxocariasis can lead to serious health complications, particularly in children. This research aims to provide an in-depth understanding of toxocariasis, including its causes, symptoms, diagnosis, treatment, prevention, and the broader implications of this often-overlooked disease.

Causes and life cycle of toxocara

Toxocariasis is caused by two main species of roundworms, *Toxocara* canis (from dogs) and *Toxocara* cati (from cats). These parasites primarily reside in the small intestine of their respective hosts, where they lay eggs that are passed through the host's feces. These eggs can survive in the environment for months or even years.

When a human or another animal accidentally ingests *Toxocara* eggs from contaminated soil, water, or surfaces, the larvae hatch in the intestine and can migrate to various tissues and organs. This migration causes the clinical symptoms of toxocariasis.

Clinical symptoms of toxocariasis

The clinical presentation of toxocariasis varies widely, ranging from asymptomatic to severe. Common symptoms include:

Visceral toxocariasis: This form affects various internal organs and can cause fever, cough, abdominal pain, and hepatomegaly (enlarged liver).

Ocular toxocariasis: When the larvae migrate to the eye, it can lead to vision impairment, inflammation, and retinal damage, often resembling other eye diseases.

Covert toxocariasis: Many individuals may experience mild or nonspecific symptoms, making it challenging to diagnose.

Diagnosis of toxocariasis

Diagnosing toxocariasis can be challenging due to its nonspecific symptoms and the lack of a definitive diagnostic test. However, healthcare professionals typically rely on a combination of clinical evaluation and laboratory tests:

Serology: Blood tests, such as Enzyme-Linked Immunosorbent Assay (ELISA), can detect antibodies to *Toxocara* antigens. Elevated antibody levels suggest exposure to the parasite.

Imaging: Radiological imaging, like ultrasound, can help visualize affected organs and guide diagnosis.

Biopsy: In some cases, a tissue biopsy may be necessary to confirm the presence of larvae in affected organs.

Prevention of toxocariasis

Preventing toxocariasis primarily involves reducing exposure to contaminated environments and practicing good hygiene:

Deworming pets: Regularly deworming dogs and cats can help reduce the shedding of *Toxocara* eggs in their feces.

Proper waste disposal: Ensure the proper disposal of pet feces to prevent environmental contamination.

Hand hygiene: Frequent handwashing, especially before eating, can reduce the risk of accidental ingestion of contaminated soil or objects.

Avoiding pica behavior: Children, in particular, should be discouraged from engaging in pica behavior (eating dirt, sand, etc.), which increases the risk of ingestion of *Toxocara* eggs.

Education: Public health campaigns and education efforts can raise awareness about the risks of toxocariasis and promote preventive measures.

Toxocariasis is a significant yet often overlooked parasitic disease that affects both humans and animals. While it can range from asymptomatic to severe, the impact on children, in particular, underscores the importance of prevention and early diagnosis. Public health efforts to educate the public about the risks and promote responsible pet ownership, as well as research aimed at improving diagnosis and treatment, are essential in reducing the

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burden of this often-silent threat. By understanding and addressing toxocariasis, we can protect the health and well-being of vulnerable populations and work towards a healthier future for all.