


CEP is extremely rare. The enzyme that is deficient is uroporphyrin III cosynthase. It occurs at a very young age and has a marked degree of photosensitivity. Total avoidance of sunlight is usually essential to prevent disfiguration. This is the only type of porphyria that can be diagnosed prenatally.

HEP is a very rare type of porphyria due to a deficiency of uroporphyrinogen decarboxylase. Marked phototoxic skin lesions develop early in childhood along with a variety of neurological abnormalities.

If you are interested in learning more about the Canadian Porphyria Foundation, porphyria or about National Porphyria Day, you can contact the Canadian Porphyria Foundation at 1 (866) 476-2801, or visit our website at www.cpf-inc.ca, or e-mail us at porphyria@cpf-inc.ca. 

Much of the information in this article is taken from the Canadian Porphyria Foundation's **A Guide to Porphyria booklet by Dr. Barry Tobe.

outlook

in-service corner

Tapeworms

By Ted Sellers, RN, BHScN, ENC(C) - Ontario

Some facts about tapeworms

- They are intestinal parasites of vertebrate animals (including humans)
- They absorb partially digested food through body surfaces as they have no mouths or digestive canals
- Most infections occur in Africa, Yugoslavia, Middle East, Southeast Asia, Mexico, parts of South America and the former U.S.S.R.
- In the U.S., some forms can be contracted from infected dogs or cats when children eat infected fleas
- Some worms have been known to live up to 20 years and exceed 10 metres in length

Tapeworm characteristics

- Flattened worms range from 0.5 inches to 30 feet long
- The head (scolex) has a crown of hooklets for attachment to intestinal lining
- They have a narrow neck and then body segments (proglottids) that are budded off asexually
- They may have as few as three or as many as several thousand proglottids
- The proglottids contain organs of sexual reproduction – both testes and ovaries
- They are ribbon-shaped, segmented worms
- Usually fertilization is between worms, but some species self-fertilize
- Some species shed eggs continuously in the feces, others store the eggs and shed them in the proglottid

Transmission

- The proglottids furthest away from the head mature most rapidly. When they mature, they break off and pass out of the host in the feces
- This newly detached proglottid contains several eggs with embryonic tapeworms
- This living proglottid is ingested by another primary host, regenerates a new scolex that attaches itself to the intestinal wall and resumes growth

- When eggs are ingested, they hatch into larvae, then burrow into the tissue of the host and form cysts. These are known as bladder worms, cycticeri, hydatids and measles
- These larvae attack certain selected tissues (e.g., liver in humans and dogs, brain in sheep)
- When the larvae are ingested, their growth into tapeworms is stimulated by gastric juices


Classes of tapeworms

- Together, they form the class called CESTODA
- Dwarf tapeworm – *hymenolepis nana* – is transmitted through fecal contamination
- Fish tapeworm – *diphyllobothrium latum* – is seen in fish, especially in pike
- Liver tapeworm – *taenia coenurus* – are also known as hydatid cysts
- Sheep brain tapeworm – *taenia coenurus* – causes the disease in sheep known as “gid” or “staggers”
- Pork tapeworm – *taenia solium*
- Beef tapeworm – *taenia saginata* – can occur often in people who eat raw or lightly cooked beef

Signs and symptoms of tapeworms

- Often patients are asymptomatic with tapeworms
- If symptoms are present, they may include unexplained weight loss, symptoms of pernicious anemia, presence of white eggs or ribbon-like segments of worm in stool, abdominal discomfort, diarrhea, constipation

Treatment

- To eradicate the worm, the scolex must be dislodged from the bowel. If this is not done, the worm will regrow
- Quinacrine hydrochloride (atabrine) medication kills the worm 

Resources

- <http://encarta.msn.com/encnet/refpages/refarticle.aspx?refid=761566007>
- <http://www.lupinfo.com/encyclopedia/T/tapeworm.html>
- http://www.medhelp.org/glossary/new/gls_4070.htm
- <http://www.infoplease.com/ce6/sci/A0861444.html>
- <http://www.infoplease.com/ce6/sci/A0861445.html>