Henneguya

I. **Causative Agent and Disease**

*Henneguya* is a protozoan parasite in the class Myxosporea. The genus has about 119 different species, some of which are very host and tissue specific. The parasite is found in fish as an ovoid spore (11 x 9 µm) with two anterior polar capsules and two long posterior tail-like processes (26-40 µm). The most common species in Alaska is *H. salminicola*. The spores of this parasite are found in the muscle and under the skin of Pacific salmon causing a condition sometimes referred to as “milky flesh” disease because of the creamy white fluid (spore suspension) that oozes from the cysts (pansporoblasts) during filleting. It is also known as “tapioca” disease from the many small round spore containing cysts in the flesh.

II. **Host Species**

Many species of anadromous, marine and freshwater fishes are susceptible to the several different species of *Henneguya* worldwide.

III. **Clinical Signs**

Fish infected with *Henneguya* have numerous white pansporoblasts (cysts) in the target tissues that are filled with the spores.

IV. **Transmission**

*Henneguya salminicola* is transmitted by an infectious stage in freshwater. Pacific salmon become infected as juveniles and the parasites reach the muscle via the circulatory system passing through several developmental stages that eventually develop into spores. The spores are enclosed in a visible pansporoblast or cyst formed of host tissue. When post-spawned salmon decompose, the cysts rupture and release spores into the water where they are likely ingested by an invertebrate intermediate host such as a tubificid worm. Infectious stages (triactinomyxons) for juvenile salmon develop in the invertebrate host and are released into the water column.

V. **Diagnosis**

White cysts in the flesh are examined microscopically for the typical 2-tailed spores characteristic of *Henneguya*. The condition can also be diagnosed by histological examination of tissues to verify presence of the parasite.

VI. **Prognosis for Host**

Fish mortality due to *Henneguya* does not normally occur.

VII. **Human Health Significance**

Although the cysts in the flesh are visually unappealing when present in large numbers, there are no human health concerns associated with *Henneguya*. 
Henneguya spores showing two polar capsules and two tail-like processes