

LETTER TO THE EDITOR

ANALOGIES IN MEDICINE: INTRUDER NOODLES

August 30, 2011

Dear Sir,

Intruder Noodles. Taenias are intestinal parasites of the phylum *Platyhelminthes*. They affect a large number of individuals, even now in the XXI century.

The main species are *Taenia solium* (pork tapeworm) and *Taenia saginata* (beef tapeworm). The etymology of the term Taenia is from Greek origin meaning strip or tape. It is estimated that there are approximately 2.5 million people affected by *T. solium* worldwide and 77 million by *T. saginata*, including 32 million in Africa. Worms are large, flat, ribbon-shaped and segmented. *T. solium* is two to four meters in length but may reach eight meters. *T. saginata*, is fatter and heavier and is four to 14 meters in length and, in extreme cases, may reach 25 meters. They can live for 25 to 30 years. As adults, they are composed of a fixative stalk (rostrum, head or scolex) and a tape shaped body, composed of a chain of segments called proglottides. *T. solium* is also called armed tapeworm because it contains a double crown of hooks on the rostrum. *T. saginata* is said to be disarmed for not having thorns⁴. In general, perhaps due to some immunological factors, the individual is parasitized by only one specimen, so it explains the term "solitary".

A professor of parasitology brought a tapeworm for demonstration into the classroom. Immediately, a student said: It looks like noodles. In fact, the comparison of the appearance between tapeworms and noodles - pasta made from flour and eggs, cut into long flat thin strips - has some didactic value and is quoted in various educational sources^{1,2}. My wife Zaíra, in a timely and happy inspiration, created the title above: "Intruder Noodles", because the tapeworm parasite is *persona non grata* to the intestines and is never welcome to its definitive host, which, unfortunately, is the human being.

The infection of individuals is recognized by almost daily elimination of proglottides mixed with the feces (*T. solium*) or through evacuations (*T. saginata*). Incidentally, the patients themselves report having noticed "flattened pieces of tape in their stools". Taeniasis is usually asymptomatic. When symptomatic, the clinical manifestations are similar in both worms and include dizziness, weakness, insomnia, headache, vomiting, abdominal distension, diarrhea, weight loss and abdominal pain⁴. However, the prognosis of *T. solium* can be severe because of the possibility of both ocular cysticercosis and central nervous system occurrences (neurocysticercosis)³.

From a medical student: "My aunt saw a boy expelling a tapeworm, and baffled by that sight, said that she would never eat noodles anymore".

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