Parasitology: Description of a case of amebiasis in the colon by *Entamoeba histolytica*.

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Group 8:00-9:00.
Among the infectious agents common in humans are intestinal parasites. According to the OMS, there are 3.5 billion parasitized people in the world and about 450 million suffer from parasitic disease. Endemicity levels depend on factors such as health conditions and sociocultural elements.
OBJECTIVES.

- To know and to identify the parasites present in samples of earth, taken from different zone.
- To associate the theoretical knowledge with the practice for the identification of parasitic forms and to know the application in the labor field through a clinical case and through the review of articles.
**ENTAMOEBA HISTOLYTICA**

*Entamoeba histolytica* is a protozoan parasite that invades the intestine and causes amebiasis.

* It belongs to the edge Sarcomastigophora, class Lobosea and family Entamoebidae.

* The invasive vegetative ameboid form is known as trophozoite and reaches a measurement of 12-40 μm, its caryoma is punctiform and its chromatin attached to the nuclear membrane.

* Cysts are resistance and infective form, are spherical or oval with a resistant wall of chitin, measuring 10-12 μm and have 4 nucleus.

*E. Hystolitica can contaminate soils, surviving for long periods on land and polluting vegetable crops.

* Its reservoir is the human intestine, moist soil, sewage, food and fomites.

* The incubation period varies from 1 to 4 weeks with symptoms from intestinal inflammation, infection, fulminant colitis, peritonitis to extraintestinal amebiasis such as hepatic, cerebral, pericardial and genitourinary abscesos.

* The diagnosis is made by means of light microscopy and the ELISA test.
A 42-year-old male patient visits the San Rafael Hospital in Alajuela, Costa Rica, for a mucosanguinolytic diarrhea with a three-week history of onset, showing that the stools were black, often 10 times Per day, also refers to diffuse abdominal pain that is relieved when defecating, progressive loss of weight of 4 kilos in 3 months, associated with asthenia, adynamia, loss of appetite and tenesmus.
METHODOLOGY

Serial coproparasitoscopic examination (8 days).

Observation with lugol solution (fresh) and 0.9% saline solution.

Additional tests

Stains for treponema, Campylobacter and Cryptosporidium.

Gastroscopy and colonoscopy

HIV Testing

Biopsy.
RESULTS

In the microbiology laboratory, the presence of binucleate and tetranuclear cysts, with spherical and oval form, was observed before the microscope, however it was demonstrated the absence of Entamoeba histolytica in its trophozoite form.

Fresh coproparasitoscopic examination: cysts 9-11 microns in diameter, uninucleate and binucleate were found, as well as trophozoites of 15-20 μm.

Ferric hematoxylin staining: presence of binucleate and tetranuclear cysts of 10 μm diameter, with fine granular appearance.

HIV test: negative
Tinctures for Treponema, Campylobacter and Cryptosporidium negatives.

Biopsy: identification of rounded structures with vacuoles and nucleus, covering the whole mucosa of the colon.
The objective of this work was to carry out a bibliographic review of the parasitic agents causing enteric diseases found in the Argentine Republic, both in the fecal matter of people and in the environment, since the parasitic contamination of the latter constitutes a direct indicator of the risk of Infection by intestinal parasites.
### Tabla 1. helmintos intestinales encontrados en muestras ambientales de la República Argentina

<table>
<thead>
<tr>
<th>Procedencia</th>
<th>Encontrado en</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ascaris</td>
<td>Agua de consumo, Suelo</td>
</tr>
<tr>
<td>Anisakis</td>
<td>Agua de consumo, Agua de río</td>
</tr>
<tr>
<td>Hymenolepis nana</td>
<td>Suelo</td>
</tr>
<tr>
<td>Taenia sp.</td>
<td>Agua de consumo, Agua de río, Efluentes domiciliarios, Heches de perro</td>
</tr>
<tr>
<td>Necator americanus</td>
<td>Agua de río, Efluentes domiciliarios, Heches de perro</td>
</tr>
<tr>
<td>Diphyllobothrium sp.</td>
<td>Agua de río, Efluentes domiciliarios, Heches de perro</td>
</tr>
<tr>
<td>Echinococcus granulosus</td>
<td>Agua de río, Heches de perro, Efluentes domiciliarios</td>
</tr>
<tr>
<td>Taenia solium</td>
<td>Agua de consumo, Agua de río, Efluentes domiciliarios, Heches de perro</td>
</tr>
<tr>
<td>Giardia</td>
<td>Agua de consumo, Agua de río, Efluentes agrícolas</td>
</tr>
<tr>
<td>Trichomonas</td>
<td>Agua de consumo, Agua de río, Efluentes domiciliarios, Heches de perro</td>
</tr>
</tbody>
</table>

### Tabla 2. helmintos estéreos encontrados en muestras ambientales en Argentina

<table>
<thead>
<tr>
<th>Helminto</th>
<th>Encontrado en</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncinaria</td>
<td>Heches de perro, Buenos Aires, Misiones</td>
</tr>
<tr>
<td>Trichuris trichiura</td>
<td>Buenos Aires, Chubut, Salta</td>
</tr>
<tr>
<td>Hymenolepis diminuta</td>
<td>Buenos Aires, Misiones</td>
</tr>
<tr>
<td>Hymenolepis nana</td>
<td>Buenos Aires, Misiones</td>
</tr>
<tr>
<td>Paragonimus</td>
<td>Buenos Aires, Misiones</td>
</tr>
<tr>
<td>Fasciolopsis</td>
<td>Buenos Aires, Misiones</td>
</tr>
<tr>
<td>Echinococcus</td>
<td>Buenos Aires, Misiones</td>
</tr>
<tr>
<td>Diphyllobothrium</td>
<td>Buenos Aires, Misiones</td>
</tr>
<tr>
<td>Taenia solium</td>
<td>Buenos Aires, Misiones</td>
</tr>
<tr>
<td>Giardia</td>
<td>Buenos Aires, Misiones</td>
</tr>
<tr>
<td>Trichomonas</td>
<td>Buenos Aires, Misiones</td>
</tr>
</tbody>
</table>
A total of 107 soil samples were collected over the four seasons of the year during 2000-2001. There were 37 samples in winter, 30 in spring, 20 in summer and 20 in autumn. The relative frequencies of the different parasitic species found per station were calculated.

Analysis of the 107 soil samples determined 28.9% of samples positive for at least one parasite form (31/107). During the year of study six species of protozoa could be recovered from the soil. The presence of cysts of Entamoeba sp., Enteromonas sp., Endolimax sp., Giardia sp., Iodamoeba sp. And coccidios oocysts.

32.4% of winter samples indicated intestinal protozoa as well as 35% of autumn, 33.3% of spring and only 10% of summer.
In Argentina the available data of recent years on intestinal parasites found in the environment are abundant.

- The findings of these parasites are limited by several factors, such as the presence of research groups, the lack of sensitivity when performing techniques for finding parasites and the low concentration in samples collected.

- It is important to keep in mind that the parasites are found anywhere in the world and if you do not have the necessary measures we can present some parasitosis.
METHODOLOGY (Laboratory microbiology)

Collection of 4 soil samples (gardens of homes and FCQ).

50 g of each sample were weighed and suspended in 50 ml of sol. Saline (0.9%).

Rest / 24 hours

Coproparasitoscopic method of concentration by sedimentation of Brij-35 to 30%

Preparation of sample on slides with a drop of lugol

Observation under the microscope.
RESULTS.

By means of the collection of soil samples by the UASLP FCQ parasitology laboratory, the presence of Hymenolepsis nana eggs could be found in the sample referring to land taken from the community of Villa de Pozos. In the sample taken from the sleep of the area of Abastos in Gálvez could be found the presence of Áscaris lumbricoides. In the remaining samples no apparent presence of Parasites was found, however, for better detection it is important to do the sampling in triplicate, so that the results are of higher quality.
CONCLUSIONS

- By means of the practice we can verify the existence of intestinal parasites around us, which indicates the exposure to which we submit to not having the adequate conditions of hygiene and sanitation of food, water and soil.

- Also, we can demonstrate that the study of microbiology is of great clinical importance for the diagnosis of parasitic diseases and collaboration with the physician for its subsequent treatment.

