

First molecular identification of *Blastocystis* subtypes isolates from human stool samples in Algeria

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Abstract

In order to determine the frequency of different parasitic species and to identify for the first time the subtypes of *Blastocystis* in the Algerian steppe area, a descriptive and analytical study of human intestinal parasitosis carried out on the set of 2277 patients, representative of urban and rural areas over a period of three years was realized in the wilaya of Laghouat. Each sample was subjected to direct microscopic examination, an enrichment, and in vitro culture on two xenic mediums. Subsequently 30 samples of *Blastocystis* positive culture were subtyped by PCR using sequence-tagged site (STS) primers. Results indicated that the overall infection rate was 33,33%. *Blastocystis* sp is the most frequently found parasite (52,22%), followed by *Entamoeba histolytica/dispar* (26,35%), *Giardia intestinalis* (12,65%), *Entamoeba coli* (12,38%), *Endolimax nana* (5,27%), *Trichomonas intestinalis* (3,03%), *Enterobius vermicularis* (1,71%), *Cryptosporidium* sp (0,92%), *Teania saginata* (0,53%) and *Trichuris trichiura* (0,13%). Subtyping of *Blastocystis* sp indicated a high frequency of ST1 (63.3%), followed by ST4 (23.3%), ST2 (13.3%), ST7 (13.3%), ST3 (10%) and ST5 (6.7%). Mixed subtypes were identified in 30% (9/30) of analyzed samples. Clinical symptomatology is observed in 80,4% of the parasitized subjects and the parasite intensity were significantly correlated with the clinical signs. Multivariate analysis indicates significant associations between ST1, ST4 and residential places, between ST1, ST2, ST4, ST7 and patients who consume tap water and between ST1, ST2, ST4 and patients who are in contact with animals. To the best of our knowledge, this is the first report on subtyping of *Blastocystis* in Algeria.

Biography:

SEBAA Soumia is Phd in Parasitology, her doctoral work is consist about epidemiological study of different intestinal parasites and she was able to determine for the first time in Algeria the subtypes of *Blastocystis* and indicates a significant associations between *Blastocystis* infection and contact with animals and consumption of tap water. She work in medical analysis laboratory of hemodialysis center and she teaches in university as a temporary worker, she teaches modules of zoology, parasitology and botanic.

Speaker Publications:

1. "Contribution à l'étude de la place des parasites protozoaires dans l'étiologie des entérites chez la population humaine en milieu hospitalier et non hospitalier issues des zones urbaines et rurales via les sources animales."
2. "Subtyping of *Blastocystis* Isolates from Cultivated Human Stool Samples in Laghouat Province, Algeria"

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