

Listeria monocytogenes **IN HIV-INFECTED PATIENTS IN A HOSPITAL OF
NOVA IGUAÇU, RIO DE JANEIRO, BRAZIL**

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ABSTRACT: A survey was carried out in a hospital of Nova Iguaçu, Rio de Janeiro, Brazil, in the period from July 1999 to March 2002, to determine the infection rate of *Listeria monocytogenes* in HIV+ patients with diarrhea symptoms; 134 samples were processed by microbiological methods. The results demonstrated 12.68% of positive samples. However, no statistical differences were observed for age or sex in the studied group, suggesting that this microorganism should be regarded in the differential diagnosis of infectious processes in HIV+ patients in the area.

KEY WORDS: Listeriosis, HIV, diarrhea.

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Listeria monocytogenes is the bacterium responsible for listeriosis. This microorganism can infect several species of animals including human beings (3). According to Chagas *et al.* (2), the disease can cause septicemia, mononucleosis, abortion, meningitis, encephalitis, prenatal and perinatal infections, and areas of necrosis in the liver of infected species. The growing and morphology of the genus are similar to those of the diphtheria agent. These bacteria can cause beta-hemolysis in blood agar and glycosilate tryptosade agar. After the infection, the bacterium is eliminated of the organism in approximately four weeks. The microorganism can be found in the digestive tract, facilitating the transmission by asymptomatic carriers. The incidence is variable, being higher in individuals in contact with symptomatic patients. The microorganism is difficultly isolated from feces, hindering a diagnosis. According to Jurado *et al.* (4), this fact facilitates underestimating its incidence. Using this information as a basis and regarding the shortage of information in the area, we decided to carry out this survey.

The survey was carried out in a hospital of Nova Iguaçu, Rio de Janeiro, Brazil. The collection was performed from 134 HIV+ patients with intestinal symptoms. The samples were collected in the period from July/1999 to March/2002, using sterile swabs and transported in Stuart Agar medium. The material was plated in *Listeria* enriched broth and incubated at 4°C.

The obtained growth was weekly cultured in *Listeria* Selective Agar Base and Blood Agar, and incubated at 37°C for 24h. The colonies were identified by morphological characteristics and mobility at 25°C [Gram's method with Koppelof-Beerman modification] (1). The confirmation was achieved by biochemical and serologic tests (BioMerieux Vitek; Fast agglutination test). Statistical analysis (Fisher test; $p < 0.05$) was also carried out using a computer program (Bioestat 2.0). The result demonstrated 12.68% of positive samples, corroborating the reports of Qayyum *et al.* (7). However, no statistical difference related to age group and sex was observed. In this case, the infection was related with a diarrhea, highlighting thus its epidemiological interest. It is important to emphasize that the clinical manifestations are varied, meaning that several problems could be developed in infected patients (6). We must emphasize that the frequency of cases is not only related with immunosuppression and thermotolerance in low temperatures, but with the possibility of asymptomatic carriers, which could serve as new focuses of infection. This result indicates that situations related with HIV infection (epidemiology and treatment) could

increase the possibility of *Listeria* infection in the community (5, 8). We must remind that in the community, an oral contamination (by ingestion of foods contaminated with feces or non-pasteurized milk) facilitates the occurrence of outbreaks. Currently, no vaccines exist; in the county hospitals, no routine diagnoses are performed; and it is practically impossible to avoid the contact with the microorganism in the environment, reason why we suggest it should be regarded in the differential diagnosis of infectious processes, which are developing in HIV+ patients of the county.

Table 1. Occurrence of *Listeria monocytogenes* in HIV-infected patients, assisted in the General Hospital of Nova Iguaçu, Rio de Janeiro, Brazil, from July/1999 to March/2002.

Age group (years)	Examined samples		Positive samples	
	Male patients	Female patients	Male patients	Female patients
15-20	4 (2.98%)	0 (0%)	0 (0 %)	0 (0 %)
21-25	6 (4.47%)	3 (2.23%)	2 (1.49%)	0 (0 %)
26-30	22 (16.41%)	13 (9.70%)	3 (2.23%)	1 (0.74%)
31-35	28 (20.89%)	16 (11.94%)	4 (2.98%)	2 (1.49%)
36-40	17 (12.68%)	14 (10.44%)	2 (1.49%)	1 (0.74%)
>40	6 (4.47%)	5 (3.73%)	2 (1.49%)	0 (0 %)
Total	83 (61.94%)	51 (38.05%)	13 (9.70%)	4 (2.98%)

Fisher's test (p>5%)

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