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## Brief communication

# Visceral leishmaniasis in HIV-infected patients in the south of France

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*Between 1989 and 1993, investigations by classical parasitological procedures of 139 HIV-infected adults living in visceral leishmaniasis (VL) endemic areas showed that 10 of them (7.2%) were positive for Leishmania (by stained smears and culture). In the same period we identified 15 VL cases in patients not infected with HIV. Thus, 40% (10/25) of our VL cases were associated with HIV infection.*

Since 1985, about 400 cases of visceral leishmaniasis (VL) associated with AIDS—mainly from the Mediterranean region— have been reported (1, 5); prevalence data of the co-infection in this endemic area are rarely available.

## Methods and results

Since 1989, we systematically searched for VL—based on the recent CDC classification (2)— in a cohort of HIV-infected adults who presented with prolonged fever of unexplained origin.

Several Grünwald-Giemsa-stained smears and NNN-medium cultures with bone marrow aspirate were carried out on 139 HIV-infected patients, 10 of whom were found to be infected with *Leishmania* (positive smears in 9 and positive cultures in all 10). These patients were aged 24 to 56 years, and presented with fever, pancytopenia, a raised erythrocyte sedimentation rate, and a CD4 count of <200 per cu.mm. The spleen was enlarged in five of the 10 patients. Leishmanial serological tests (indirect immunofluorescence and counter-immuno-electrophoresis) were positive in only four patients (Table 1).

The isoenzyme characterization of *Leishmania* isolates obtained from these 10 patients identified the following zymodemes of the *L. infantum* complex: MON-1, MON-29, MON-33 and MON-183. MON-1

is the common zymodeme found in VL of the Mediterranean countries. MON-29 and MON-33 zymodemes are responsible for localized cutaneous leishmaniasis in immunocompetent patients; they have nevertheless been found in co-infected VL-AIDS patients by others (3, 6). However, MON-183 zymodeme has only been reported so far in two VL-AIDS co-infected cases (7). The MON-29, MON-33 and MON-183 zymodemes vary slightly from the MON-1 zymodeme, differing in only two or three enzymes out of the 15 tested (7, 8).

Five of the 10 co-infected patients were living in the French department of Pyrénées-Orientales and occasionally travelled to Spain. Two were from Marseilles and three from the Cévennes region (south of France). One of the patients from Marseilles left the endemic area two years ago.

During the same observation period (1989–93), 15 VL cases (13 adults and 2 children) were diagnosed in our laboratory in patients not infected with HIV. The proportion of the VL-AIDS association in relation to the total number of VL cases found by our laboratory is 10/25 or 40%, which is comparable to that reported by others (4). The proportion of VL in the cohort of AIDS patients investigated is 10/139 or 7.2%.

## Conclusion

These results are consistent with previous observations on the occurrence of HIV/*Leishmania* co-infection in southern Europe, and emphasize the increasing importance of VL as an opportunistic infection among AIDS patients in areas where both infections are endemic.

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Table 1: Clinical and biological data of ten HIV-infected patients with visceral leishmaniasis

Patient	1	2	3	4	5	6	7	8	9	10
Sex	F	M	M	M	M	M	M	F	F	M
Age (years)	27	55	35	26	24	24	39	56	35	36
HIV group (CDC criteria)	NA <sup>a</sup>	C3	C3	C3	B3	C3	C3	C3	B3	C3
Fever	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Spleen enlargement	No	No	No	Yes	No	No	Yes	No	Yes	Yes
<i>Diagnostic tests:</i>										
Haemoglobin (g/l)	8.2	10.2	9.2	8.9	10.4	9.3	12.1	9.2	8.8	8
Leukocytes (x 10 <sup>9</sup> /l)	1.8	1.1	0.8	1	2.4	2.8	2.1	1.4	2.5	1.3
Lymphocytes CD4 (x 10 <sup>6</sup> /l)	NA <sup>a</sup>	5	20	11	1	191	170	12	88	15
Platelets (x 10 <sup>9</sup> /l)	135	65	68	112	137	77	106	163	128	107
Bone marrow smears	+	+	+	0	+	+	+	+	+	+
NNN-medium culture	+	+	+	+	+	+	+	+	+	+
Identification (zymodeme MON-)	1	1	33	183	29	1	1	1	1	29
Immunofluorescence antibodies test (IFAT)	1/80	1/20	0	1/320	0	0	0	1/20	1/640	1/160
Counter-immuno-electrophoresis (CIE)	+	0	0	0	0	0	0	0	+	+

<sup>a</sup> NA: not available.

Our results confirm the usefulness of classical parasitological procedures for diagnostic purposes in patients with immune defects. Although they are time-consuming, these tests are indispensable for the further isoenzyme characterization of the strains and useful for identification of visceralizing strains during immunosuppressive conditions. More sensitive techniques (Western-blot, polymerase chain reaction, and detection of circulating antigen) are nevertheless required to confirm a suspected diagnosis of VL in AIDS patients living or travelling in leishmaniasis endemic areas.

## Résumé

### Leishmaniose viscérale chez des patients infectés par le VIH dans le sud de la France

Entre 1989 et 1993, des investigations réalisées par des techniques parasitologiques classiques chez 139 patients infectés par le VIH et vivant dans des zones d'endémie de la leishmaniose viscérale (LV) ont montré que 10 d'entre eux (7,2%) étaient positifs pour *Leishmania* (frottis colorés et culture). Au cours de la même période, nous avons identifié 15 cas de LV chez des sujets non infectés par le VIH. Parmi les cas de LV que nous avons recensés, 40%/10/25) étaient donc associés à l'infection par le VIH.

## References

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