

## Visceral leishmaniasis diagnosed on duodenal biopsy in a child

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### Abstract

Visceral leishmaniasis is usually easy to recognize when clinical presentation is complete : splenomegaly, fever and palor associated to pancytopenia, hypoalbuminaemia and hypergamma globulinemia. Bone marrow smears, culture and serology confirm the diagnosis.

We report the case of an infant in whom clinical and biological findings are suggestive of leishmaniasis and the diagnosis confirmed only by duodenal biopsy. (*Acta gastroenterol. belg.*, 2003, 66, 258-259).

**Key words :** visceral leishmaniasis, duodenal biopsy, child.

### Case report

Haythem, is a 14 months old boy who presented one month before admission, abdominal distension, palor and fever ranging between 38 and 39° celcius and resistant to antibiotics. He comes from Sousse, which is a Tunisian town not known to be an endemic focus of leishmania.

Physical examination found marked fever 39° celcius, abdominal distension, hepatomegaly (liver axis = 9 cm), splenomegaly (spleen axis = 12 cm), tachycardia and polypnoea.

Laboratory tests were as follows : white cell count 4200 per  $\mu\text{L}$  (0,32 granulocytes and 0,62 lymphocytes) ; platelet count  $35 \times 10^9/\text{l}$  ; hemoglobin 52 g/l ; prothrombin time 38%, aspartate/alanine amino-transferase : 57/33 UI/l ; albuminaemia : 30.1g/l, gamma-globulinaemia : 40.5 g/l. Erythrocyte sedimentation rate was 110 mm at the first hour. Immunoelectrophoresis showed a monoclonal peak type IgG Kappa and a polyclonal increase of IgM and IgA.

Visceral leishmaniasis diagnosis was suspected because of the association of splenomegaly, fever, palor, pancytopenia, hypoalbuminaemia and hypergamma globulinemia. Direct bone marrow examination was microscopically negative. Bone marrow culture on NNN medium was negative. Serological tests for *Leishmania* Spp, repeated within 3 months after treatment, were negative. Oesophagogastroduodenoscopy showed normal-appearing mucosa. Duodenal biopsy was performed one month after admission. It visualized multiple *Leishmania* amastigotes (Figs. 1, 2). AIDS test was negative.

After treatment with sodium stibogluconate 20 mg/Kg body-weight antimony, given during 20 days, symptoms resolved progressively. The infant was discharged one week after the end of the treatment.

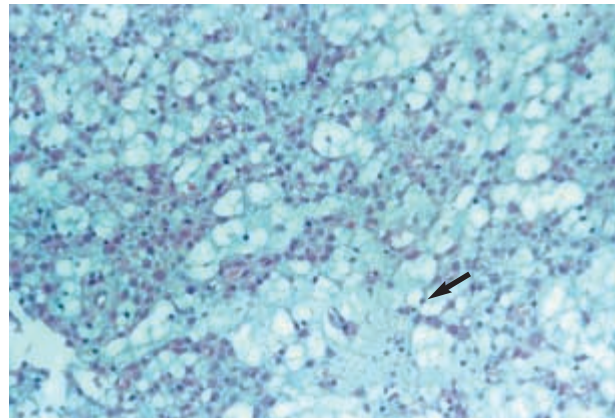


Fig. 1. — Intestinal biopsy. Histiocytes filled with leishmania amastigotes (arrows).

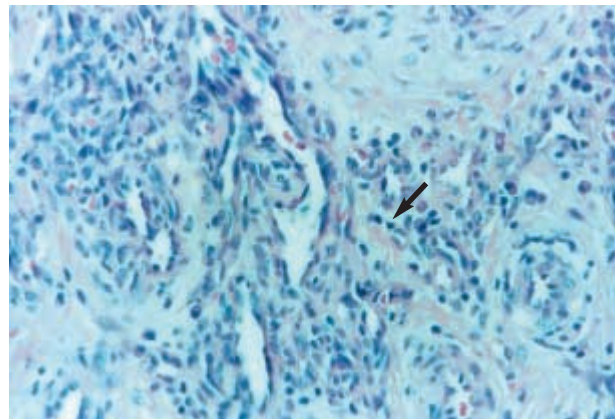


Fig. 2

### Discussion

Visceral leishmaniasis characterized by fever, anaemia and splenomegaly is usually easy to diagnose. Bone marrow examination contribute to diagnosis in 54 to 86% of cases. In the other cases, culture on NNN medium, direct examination of Kupfer cells (hepatic aspiration), smears of splenic or adenomegaly aspirates contribute to diagnosis. However these examinations are

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agressive and may be risky (essentially heamorrhage) which limit their utilisation.

Serological tests for *Leishmania* Spp are positive in 95% of cases.

In literature, there is few reports of cases of visceral leishmaniasis diagnosed by duodenal biopsy (1,2,3,4,5). All these patients were with human immunodeficiency virus (HIV) infection (1,2,4,5,6,7,8), a frequent coinfection in the Mediterranean area.

Selective *Leishmania* involvement presents with atypical symptoms for visceral leishmaniasis and may appear as a relapse or as the first manifestation of the disease. In a review of 15 cases of gastrointestinal leishmaniasis in patients with HIV infection, thirteen had digestive symptoms including diarrhea (6), dysphagia and/ or odynophagia (6), abdominal or epigastric pain (4), gastrointestinal hemorrhage (1), rectal discomfort (1).

Our patient had no gastrointestinal symptoms. The parasite was only detected in a duodenal biopsy specimen. In Muigai *et al.* series, ten cases of visceral leishmaniasis underwent duodenal biopsy systematically. Leishmaniasis were visualized in five of them, while only one had diarrhea (9). The regions of the digestive tract most frequently affected by *Leishmania* organisms are the duodenal mucosa (90%) and gastric mucosa (75%) (8).

## Conclusion

Duodenal biopsy appears as an important mean of visceral leishmaniasis diagnosis. It's mainly interesting in

cases with diagnostic difficulties even in the absence of gastrointestinal signs.

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