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AUTOCHTONOUS VISCERAL LEISHMANIASIS IN ZAIRE

by

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Summary — A thirty year old male African patient with visceral leishmaniasis is described from the Gemena area in Ubangi, in the north-western part of the Republic of Zaïre. He had not left the area since more than twenty years. The main symptoms were wasting, generalized lymph node enlargement, edemas of face and legs and ascites. There was no fever, but initial leukopenia and albuminuria were present. The diagnosis was based on the histological examination of a cervical node. The patient recovered spontaneously in less than six months, without any specific treatment. A case of visceral leishmaniasis has been formerly described from Shaba, but there are doubts that the infection occured in Zaïre.

KEYWORDS : Leishmaniasis, Visceral; Kala-Azar; Case Report; Zaïre.

Introduction

A single case of visceral leishmaniasis has been hitherto reported from Zaire (Prévot, Parmentier & Bounameaux, 1968). It was observed in the Shaba region, in the south eastern part of the country, but there are doubts that the patient became infected on the spot. The case reported here is certainly autochtonous, from the northern part of the country. Its features are furthermore somewhat unusual, exemplifying how easily such patients can be overlooked.

Case report

The patient is a Zairian male of the Ngbaka tribe, born in July 1946 in the military camp of Kitona (Bas-Zaire). He lives from the age of six years in the village of Botili, near Bumbwa, in the area of Gemena, sub-region of Ubangi (Région de l'Equateur) in the north-western part of the Republic of Zaire. He went to school in nearby Gemena from 1960 to 1965. He has travelled little and never lived outside his village nor left the Gemena area. He works as a farmer, growing mainly soja which was introduced some years ago. He often goes fishing as other village people do.

In November 1976 he loses weight and feels tired. He is admitted to the hospital wards in Bwamanda on November 19 for edema of the legs and albuminuria. The clinical report mentions incipient cachexy, generally enlarged lymph nodes, especially in the cervical and inguinal areas and edema of both legs. Examination of liver or spleen is not reported. The patient weighs 53 kg on admission. The former medical history is unremarkable. The patient is afebrile and will remain so throughout the observation period. Trypanosomiasis is of course suspected in this endemic area.

Examinations of lymph fluid and blood, including repeated thick drops and the triple centrifugation procedure remain negative for sleeping sickness and malaria parasites, but microfilariae of *Loa loa* are found. The lungs are clear on radioscopy. There are 2,400 leukocytes with a normal formula. The sedimentation rate is 8/11 mm after one and two hours. A biopsy of an enlarged cervical lymph node is taken and sent to the Department of Histopathology of the Institute of Tropical Medicine in Antwerp.

Meanwhile treatment is started with diethylcarbamazine and antihistaminics. A protein enriched diet is given. On January 2nd, ascites is noticed. The patient leaves the wards without authorization that same day.

The histological diagnosis of leishmaniasis arrives on February 12, 1977. The patient is then traced back and readmitted the next day.

His general condition has deteriorated. This time he shows facial edema, bilateral painful swellings of both parotid glands and hypersalivation, important edema of the legs, slight greyish discoloration of the hand palms and evident ascites (fig. 1). The liver and spleen are normal and no abdominal tumour is found but the patient certifies that his spleen has been enlarged in the previous weeks. Heart and lungs appear also normal.

The leucocyte count is now (February 23) 6,800 (N : 70, E : 6, L : 22, M : 2). Hemoglobin 12 gr. (Sahli). A formol-gel test is negative after two hours.

Smears of sternal marrow and blood are sent to Antwerp, together with a serum sample and a new biopsy of a cervical node with imprints.

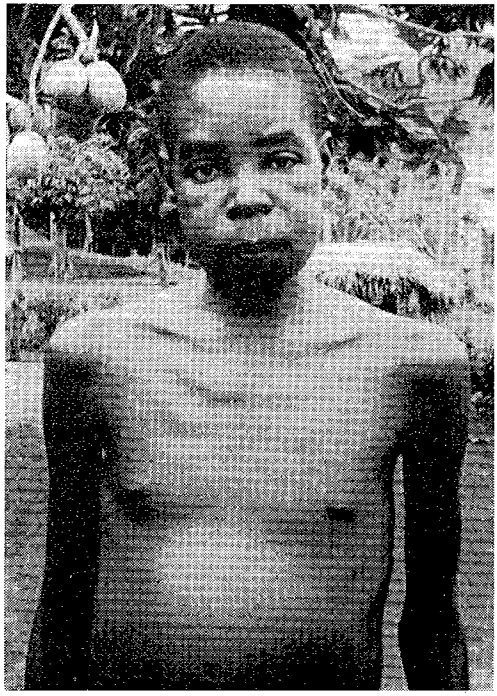

Figure 1
The patient in February 1977.

No parasites could be found in this material. The immunodiffusion test against antigens of *Leishmania donovani* and *L. tropica* was negative, as was also the second biopsy.

On receipt of these results, the patient is discharged three weeks later. His condition is improving, though no specific treatment was available.

In August 1977 he is back at work. Clinical examination is by now completely negative. Ascites, edema and adenopathies have disappeared and he is gaining weight. On September 12, 1977 he is however admitted again, this time for a pleural effusion. It will swiftly disappear under treatment with streptomycin, INH and thiocetazone. In July 1978 his condition is excellent. He is still ambulatorily treated with tuberculostatic drugs.

The diagnosis is based entirely on the *histology of the cervical lymph nodes.* The first specimen (ITM-9071), taken in November 1976, consists of a moderately enlarged formalin fixed, node, measuring 2 × 0.4 × 0.4 cm. Large parts have been squashed in the course of the biopsy process. The general structure is preserved. Fibrous tissue is increased. A few germinal centers are found. The paracortical areas are unobvious and appear depleted. The rest of the tissue is made up for two thirds of medullary cords and for one third of dilated sinuses. Quite numerous mast- and plasma-cells are found among the lymphocytes but no Russell bodies. Large reticular cells with numerous small intracytoplasmic bodies are found throughout the node, especially in the subcapsular and medullary sinuses, which are nowhere completely filled up. Their number is however not overwhelming and the lesions are obvious only at high magnification. The rounded inclusions, of uniform dimensions, approximately 2.5 μm large, number about 15 per cell section. They are vesicular with a basophilic rim and evident nuclei (fig. 2). Gomori, mucicarmine and PAS stains do not

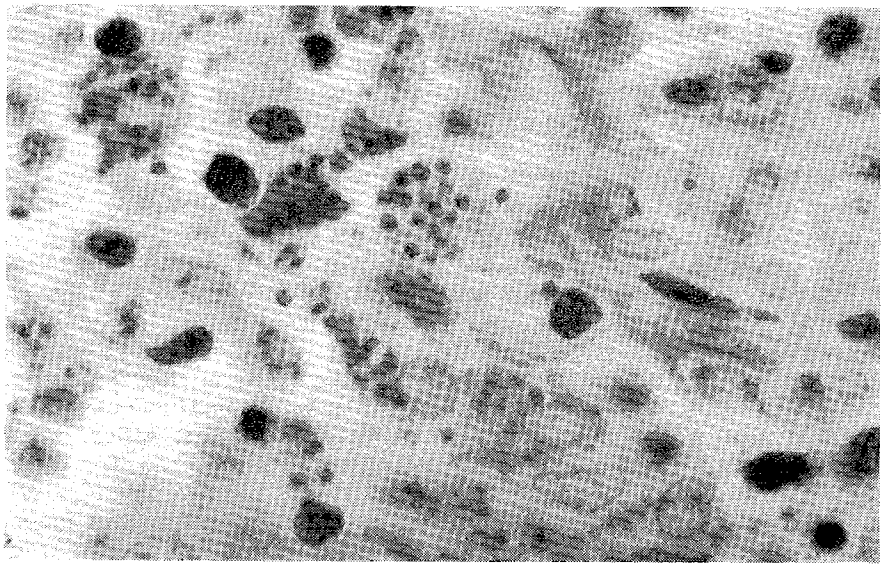

Figure 2

Leishman-Donovan bodies in a cervical node. Giemsa stain. Oil Imm. 100 ×.

display them. Some granular pigment is also found, as usually in dark skinned people. The reticulin network is quite normal.

An attempt of identification by immunofluorescence was not succesful. This has no real significance on this damaged and inadequately preserved material.

The second biopsy specimen (ITM-9828), taken in February 1977, shows a similar structure. No leishmaniae could be found, but some pigment is still present and there are a few Russell bodies.

Discussion

This Zairian patient presents some features suggestive of visceral leishmaniasis as facial and leg edemas, enlarged lymph nodes and initial leukopenia. Other characteristics are less typical. Fever was for instance absent as in the other case reported from Zaire (Prévot *et al.*, 1968). It is said to be « the most variable symptom in the adult patient » by Fenech (1976), who reports cases from Malta, which are quite similar to the Bwamanda one, presenting with adenopathies without fever and with negative sternal puncture and becoming spontaneously negative after less than three months, without any specific treatment.

Such benign cases will understandably be easily missed in areas where leishmaniasis is not known to be present. The initial albuminuria, often mentioned in African cases (Sirol *et al.*, 1976) is suggestive for glomerular lesions by immune deposits (Andrade & Iabuki, 1972; De Brito *et al.*, 1975). The negative serological result is the more surprising. It is possible that antigenic differences with the middle-eastern strains used in the diffusion test were too important to demonstrate antibodies by this relatively less sensitive method.

Visceral leishmaniasis has now been observed in many African countries excepting West Africa. Its distribution has been recently reviewed (Lysenko, 1971; Dedet, 1976). In those countries which have common borders with Zaire, the disease has been reported from Angola (Sabido, de Azevedo & Pinto, 1963), Zambia (Naik *et al.*, 1976), Tanzania and Uganda (McKinnon, 1962), the Central African Empire (Blaché, 1949; Cagnard & Lindrec, 1969) and of course Soudan. The disease appears uncommon or sporadic in most of them and the endemicity is much lower than in Kenya, Soudan or even Tchad (Sirol, Lefèvre & Bono, 1971).

The single other case reported from Zaire (Prévot *et al.*, 1968) is based on the post-mortem examination of a mesenteric lymph node. The patient was a Rwandese adult man, who had been living since two years in Lubumbashi in Shaba (formerly Katanga) and who died from a chronic diarrhoeic syndrome with cachexy. The authors consider that this period is too short to be sure that the disease was acquired in Lubumbashi. The infection could have occured in Rwanda or even in East Africa, where Rwandese people often travel, as no past history was recorded. The recent recognition of visceral leishmaniasis in nearby Zambia (Naik *et al.*, 1976) gives some more weight to the possibility that the Shaba case was indeed autochtonous. The hereby reported patient is from the opposite pole of the country, near the border of the Central African Empire, the straight distance from Bwamanda to Bangui being only 150 km. Two cases of visceral leish-

maniasis have been reported from this last country. The first one is a most typical auto-observation by a French physician who became infected in the northernmost part of the country near the common border with Soudan and Tchad (Blaché, 1949). The second one was observed in Bangui, where a 6 1/2 months old African child with gastroenteritis, anemia, neutropenia and splenomegaly was found to be infected and eventually died. The infection was very probably acquired in Bangui (Cagnard & Lindrec, 1969).

The region of Gemena is situated in Ubangi in the Guinean savanna belt, immediately north of the equatorial forest. It is a cotton and nowadays also soja growing agricultural area with a moderate density of population. Trypanosomiasis is quite common. The climate is tropical with a clear cut dry season, more humid than in South Soudan or Western Kenya and similar to that of the Central African Empire. The wide distribution of sporadic human cases in vast parts of Africa suggests a zoonotic reservoir of leishmaniasis which remains to be identified.

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Inheemse viscerale leishmaniasis in Zaire.

Samenvatting — Een inheems geval van viscerale leishmaniasis uit de streek rond Gemena in Ubangi in het noord-westen van de Zaïrese Republiek wordt beschreven. De dertig jaar oude patiënt had de streek niet verlaten sinds meer dan twintig jaar. De voornaamste ziektetekens waren vermagering, veralgemeende adenopathieën, oedemen van het aangezicht en van de onderste ledematen en ascites. Er was geen koorts, wel vroege leukopenie en albuminurie. De diagnose werd gesteld op het histologisch onderzoek van een halsklier. De patiënt genas volledig in minder dan zes maanden zonder enige specifieke behandeling. Eerder werd een geval uit Shaba beschreven, maar het staat niet vast dat de besmetting wel in Zaïre was gebeurd.

Leishmaniose viscérale autochtone au Zaïre.

Résumé — Un cas autochtone de leishmaniose viscérale observé dans la région de Géména en Ubangi, dans le Nord-Ouest de la République du Zaïre, est décrit. Il s'agit d'un homme âgé de trente ans, qui n'avait pas quitté la région depuis plus de vingt ans. Les symptômes principaux étaient l'amaigrissement, les adénopathies généralisées, les œdèmes de la face et des membres inférieurs et l'ascite. L'évolution a été afébrile mais avec leucopénie et albuminurie initiales. Le diagnostic fut posé sur l'examen histologique d'un ganglion cervical. Le patient a guéri spontanément en moins de six mois sans aucun traitement spécifique. Un patient atteint de leishmaniose viscérale a été décrit antérieurement au Shaba, mais il n'est pas certain qu'il s'était infecté au Zaïre.

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