

# Monoclonal gammopathy in human leishmaniasis

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## ABSTRACT

A 64-year-old female with IgGκ monoclonal components (total 45 g/l) and 30% abnormal plasma cells and plasmoblasts in bone marrow is reported. After the identification of leishmania in the bone marrow, liposomal amphotericin B was used and a progressive resolution of the gammopathy was documented.

## KEYWORDS

Monoclonal gammopathy, visceral leishmaniasis

## INTRODUCTION

Visceral leishmaniasis, a parasitic disease, is usually considered a typical infantile syndrome with a high incidence in southern Italy; however, the occurrence of the disease has recently been observed in immunocompetent adults as well. The detection of monoclonal components is exceptional in patients with visceral leishmaniasis.<sup>1,2</sup> In contrast, monoclonal alterations of immunoglobulins are common in canine leishmaniasis.<sup>3</sup>

## CASE REPORT

We report a case of visceral leishmaniasis and monoclonal components observed in our department during the spring of 2003.

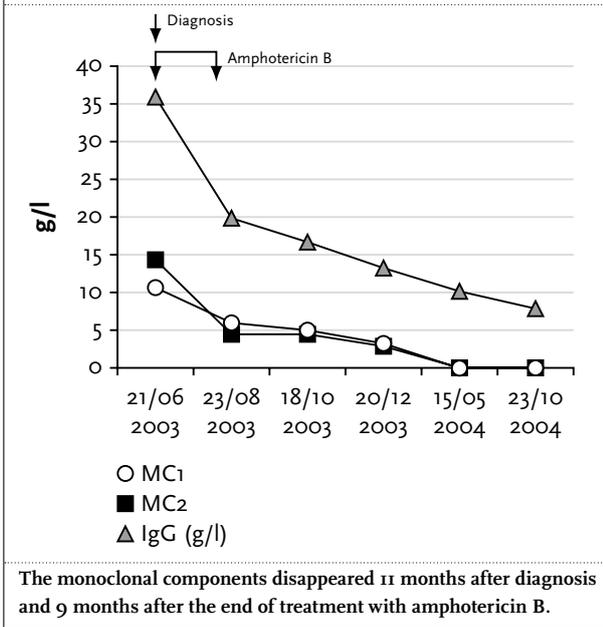
A 64-year-old woman with a history of intermittent fever (over 38°C) and headache within the last eight months was admitted in our department. She was complaining of general discomfort, fatigue, loss of appetite and recent weight loss (about 2 kg in two weeks). Her personal history was not significant, the only relevant data being trips to

Morocco (2000), Egypt (2001) and Russia (2002) and a holiday in south-eastern Italy ten months previously. Physical examination failed to demonstrate enlarged lymph nodes, but liver and spleen were palpable. The laboratory data showed mild normochromic normocytic anaemia (haemoglobin 6.6 mmol/l, MCV 89 fl), mild thrombocytopenia ( $130 \times 10^9/l$ ), slightly decreased white blood cell count (total  $3.9 \times 10^9/l$  neutrophils 47% lymphocytes 40%, monocytes 8% and eosinophils 5%), a relevant increase in ESR (102 mm/h) and CRP (108.5 mg/l). The total proteins were very high (107 g) and protein electrophoresis showed an increase in gammaglobulins (45 g/l) with 2 IgGκ monoclonal components. The Bence-Jones protein was undetectable, while  $\beta_2$ -microglobulin was higher than normal (3955 mg/l). A multiple myeloma was considered<sup>4</sup> and a bone marrow aspirate together with bone marrow biopsy performed. Abnormal plasma cells and plasmoblasts representing more than 30% of all marrow cells were observed confirming the clinical hypothesis. However, the presence of parasites was documented.<sup>5</sup> The definitive diagnosis was reached by a positive *Leishmania infantum* serological test (immunofluorescent antibody test). The patient was treated with liposomal amphotericin B for three weeks (total dose 1225 mg) with a prompt resolution of symptoms; the hepatosplenomegaly disappeared within five months. An initial decrease in monoclonal IgGκ was observed, but a completely normal level was only achieved after 12 months. The recovery of normal blood parameters was observed at the same time (figure 1).

## DISCUSSION

Previous case reports indicate that visceral leishmaniasis can be misdiagnosed as myeloma,<sup>1,2</sup> mixed cryoglobulinaemia<sup>6</sup> and malignant lymphoma,<sup>7</sup> so great attention

**Figure 1.** Immunoglobulin (IgG) total dosage and single monoclonal component (CM) concentration at diagnosis and during the follow-up



needs to be paid to patients who have travelled in a risk area and who develop a rapid increase in paraproteins. In our case, the travel in southern Italy in a three week to 18 month period before the symptoms developed should suggest a parasitic origin of the disease. It is important to underline that the extremely long duration of the monoclonal IgG component in our patient, even after a complete recovery of the symptoms and

disappearance of positive serological data, may also occur in some patients with unrecognised leishmaniasis which resolves spontaneously.<sup>8</sup> The annual incidence of visceral leishmaniasis in Italy is considered to be about 30 to 50 cases, but is probably greatly underestimated.<sup>9</sup> Therefore, it is important to be aware that acute development of monoclonal paraproteins may be related to a parasitic infection rather than a myeloma.

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