

## CASE REPORT

# HYPEREOSINOPHILIA RESPONDING TO EMPIRICAL ANTIHELMINTHIC TREATMENT

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**Abstract.** We report a 20-year-old college student presents with bilateral ankle edema associated with hypereosinophilia following a history of traveling in a rural area. Physical examinations and investigations failed to diagnose any underlying cause. She was treated with antihelminth medication and the edema subsided within a week and the eosinophil counts normalized within two weeks.

**Key words:** hypereosinophilia, edema, antihelminthic treatment

### INTRODUCTION

An eosinophil count of 1-3% is normal for adult (Rothenberg, 1998). Eosinophil can be caused by parasitic infections such as ascariasis, filariasis, and allergies, such as asthma and eczema (Weller and Buble, 1994; Ackerman and Butterfield, 2000). Eosinophilia has also been associated with malignancies, such as lymphoma and myeloproliferative disorders and autoimmune connective tissue disorders (Clauw and Crofford, 1994).

The major step in managing a patient with eosinophilia is to ascertain the underlying cause and to treat accordingly. However if underlying causes failed to be diagnosed, empirical therapy with antihelminth for patients presenting with eosinophilia may be helpful especially if they are from an endemic area for parasitic helminth infestation. This clinical case illustrated a pa-

tient with hypereosinophilia responded well to antihelminth treatment empirically.

### CASE REPORT

A 25-year-old college student from Malaysia, presented with a 2 week history of lethargy and pedal edema (Fig 1). She denied any significant past medical history. The only significant history was 6 weeks prior to presentation she went on a trip to Cambodia, but denied any fever, injury or known infection. The physical examination revealed only pedal edema. The complete blood count (Fig 2) showed a hemoglobin of 13.7g%, a total white blood cell count of  $14.2 \times 10^6/\text{l}$ , with 25% neutrophils, 19% lymphocytes, 4% monocytes, 1% basophils and 51% eosinophils. Her platelet count was  $236 \times 10^6/\text{l}$ . Her urine analysis, renal function and liver function tests were normal. Stool microscopy was negative for ova and parasites. A magnetic resonance image (MRI) of her chest, abdomen and pelvis was negative. A connective tissue disease screen was also negative. Bone marrow aspiration was not performed due to patient refusal.

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Fig 1–Pedal edema of patient.

In view of the hypereosinophilia with no clinical or laboratory evidence of hematological malignancy, she was treated empirically with albendazole 400 mg daily for 3 consecutive days. Her limb edema subsided on Day 3 of treatment and a repeat differential counts showed a marked reduction in eosinophil count to 35%. One week later it was 10% and two weeks later it was 3%. She is currently asymptomatic.

#### DISCUSSION

The management of eosinophilia includes determining the cause and treating it accordingly. Necessary investigations include stool examinations to detect intestinal helminthes, connective tissue screening and to screening for cardiac, hepatic and renal involvement. Bone marrow aspiration and biopsy should be considered

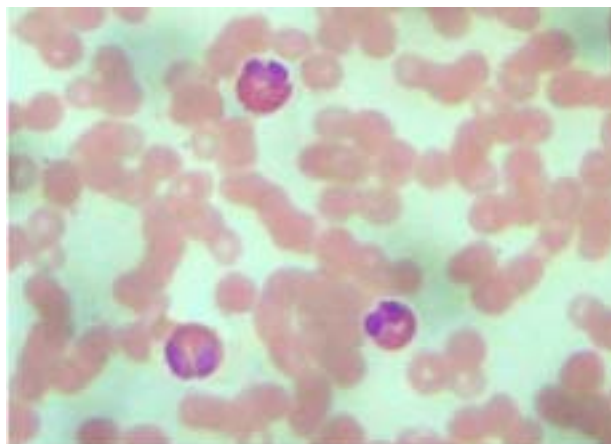


Fig 2–Peripheral blood film of patient showing the typical bilobed nucleus of eosinophils and cytoplasmic granules stained pink with Wright-Giemsa stain (x1,000).

to rule out leukemia.

Since the investigations in this patient were normal and no specific cause was identified, she was started antihelminthic empirical treatment. This approach was appropriate in view of a recent travel history and the fact that parasitic infections remain a major cause of hypereosinophilia worldwide (Weller and Bubley, 1994; Rothenberg, 1998; Ackerman and Butterfield, 2000).

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