

# An unusual case of Human Monocytic Ehrlichiosis

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## CASE REPORT

A 71-year-old male with past medical history of rheumatoid arthritis presented with acute chill, headache, myalgia, nausea, malaise for one week. Physical examination revealed bilateral forearm (Figure 1), shin maculopapular nonpruritic erythematous rash (Figure 2). No rash was found in palms and soles. Laboratory evaluation showed leukopenia with leukocyte  $2.1 \times 10^9/L$  (normal range 4–10), thrombocytopenia with platelet  $38 \times 10^9/L$  (normal range 100–400), elevated liver function tests with aspartate aminotransferase 110 U/L (normal range 8–20), alanine aminotransferase 108 U/L (normal range 8–20), alkaline phosphatase 311 U/L (normal range 20–70), and lactate dehydrogenase 494 U/L. He was diagnosed as Human Monocytic Ehrlichiosis (HME) confirmed by antibody Immuno-Fluorescent Assay. After diagnosis he was treated with doxycycline for 10 days without complications.

## DISCUSSION

HME is caused by obligate intracellular bacterium *Ehrlichia chaffeensis*, which are members of family Anaplasmataceae and are small Gram-negative bacteria [1]. HME is transmitted to humans by the bite of the lone star tick *Amblyomma americanum* [1]. However, HME is most frequently reported from the southeastern and south-central United States [2,



Figure 1: Rash in the bilateral forearm.



Figure 2: Rash in the bilateral lower extremity.

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3], from the eastern seaboard extending westward to Texas. This patient denied recent travel and worked in the home garden in long island New York for three weeks before the start of symptoms. Occasionally, HME occurs in northeastern part of United States. Typically,

patients present with flu-like symptoms, including fever, myalgia, arthralgia, fatigue, headache, nausea, and vomiting. Typical laboratory findings are elevated AST and ALT, lymphopenia, and thrombocytopenia [3]. The microbiological diagnosis of ehrlichiosis is immunofluorescence or PCR amplification of specific DNA. Peripheral blood smears of characteristic morulae (intracytoplasmic inclusions) during acute illness is relatively less common (< 10%) [3].

Of interest, Rash like this patient is also not common in HME (less than 1/3 HME patients having rash) [1]. Differential diagnosis of tick-borne diseases in epidemic areas includes babesiosis, Rocky Mountain spotted fever and Lyme disease and should be ruled out or treated empirically.

For treatment, currently recommended treatment regimens is doxycycline or tetracycline for a duration of 5–14 days with at least 3–5 days of antibiotics after the fever subsides [3, 4].

## CONCLUSION

In conclusion, we report an unusual case of HME with rash in atypical geographic region. It further confirms that tick-borne diseases should be considered in patients with rash, flu-like symptoms in tick epidemic area.

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## Author Contributions

Xiaoliang Qiu – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Larry Dial – Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

## Guarantor of Submission

The corresponding author is the guarantor of submission.

## Source of Support

None

## Consent Statement

Written informed consent was obtained from the patient for publication of this clinical image.

## Conflict of Interest

Authors declare no conflict of interest.

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