

## Images in Clinical Hematology

# Massive bone marrow infiltration by *Streptococcus pyogenes* during severe community pneumonia



Tayrine Fernanda Micheli de Oliveira, Pollyana Cristina Bernardes Valize, Leonardo Rodrigues de Oliveira  \*

Universidade Federal do Triângulo Mineiro (UFTM), Uberaba, MG, Brazil

### ARTICLE INFO

#### Article history:

Received 12 May 2019

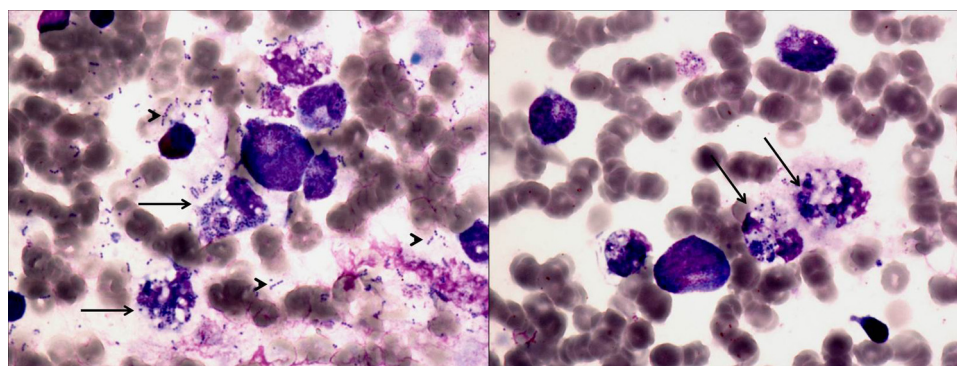
Accepted 20 May 2019

Available online 23 July 2019

A previously healthy 7-month-old boy was referred for fever and abdominal distension which had started 3 days previously. At admission, the patient had a compromised clinical condition and signs of severe sepsis. His abdomen was distended, presenting marked hepatosplenomegaly. The laboratory investigation revealed anemia (Hb 7.6 g/dL), a leukocyte count of  $3.86 \times 10^9/L$  (77% neutrophils, 15% lymphocytes),

severe thrombocytopenia ( $29 \times 10^9/L$ ), and an elevated C-reactive protein (390 mg/L). Community pneumonia was confirmed after a chest X-ray analysis.

Due to hepatosplenomegaly and cytopenias, a bone marrow sample was analyzed and the results revealed intense infiltration by gram-positive bacteria arranged in chains, free in the smear and in the cytoplasm of neutrophils and



**Figure 1 – Bacteria free in the bone marrow smear (arrowhead) and in the cytoplasm of macrophages (arrow). Leishman stain. Magnification 1000x.**

\* Corresponding author at: Rua Getúlio Guaritá, 130, 38025-440 Uberaba, MG, Brazil.

E-mail address: [leonardorodoli@hotmail.com](mailto:leonardorodoli@hotmail.com) (L.R. Oliveira).

<https://doi.org/10.1016/j.htct.2019.05.001>

2531-1379/© 2019 Associação Brasileira de Hematologia, Hemoterapia e Terapia Celular. Published by Elsevier Editora Ltda. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

macrophages (Figure 1).<sup>1,2</sup> Blood and pleural effusion cultures revealed the rapid growth of *Streptococcus pyogenes* colonies.

---

**Conflicts of interest**

The authors declare no conflicts of interest.

**REFERENCES**

- 
1. Jha A, Adhikari RC, Sarda R. Bone marrow evaluation in patients with fever of unknown origin. *J Pathol Nepal.* 2012;2(3):231–40.
  2. Weinzierl EP, Arber DA. The differential diagnosis and bone marrow evaluation of new-onset pancytopenia. *Am J Clin Pathol.* 2013;139(1):9–29.