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Unexpected Discoveries: Eosinophilia Masking Splenic Microfilariasis in a Young Woman

Beklenmedik Keşifler: Bir Genç Kadında Splenik Mikrofilaryazı Maskeleyen Eozinofili

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To the Editor,

Eosinophilia, defined as elevated eosinophil levels in the blood, can arise from various conditions, including allergic reactions, autoimmune diseases, malignancies, and infections. In endemic regions, filariasis is a significant public health issue. This report presents a unique case of splenic microfilariasis identified as an incidental finding during the evaluation of eosinophilia. A 22-year-old woman presented with a 1-month history of an abdominal lump. Laboratory tests revealed moderate eosinophilia, with an absolute eosinophil count of $3x10^9$/L, hemoglobin of 100 g/L, total leukocyte count of $10x10^9$/L, and platelet count of $160x10^9$/L. A hematology consultation was requested to investigate the eosinophilia.

Physical examination showed mild pallor, a palpable abdominal mass in the left upper quadrant measuring 6x5 cm, and mild splenomegaly extending 2 cm below the left costal margin. No signs of end-organ damage were noted. Peripheral blood and buffy coat smears showed no evidence of parasitic infection, and stool examinations for ova and cysts were negative.

After ruling out secondary (non-clonal) causes, fluorescent in situ hybridization (FISH) testing yielded no significant findings. A contrast-enhanced computed tomography scan revealed a solid cystic mass involving the distal pancreas, measuring 7x6 cm, with preserved anatomical planes and no enlarged lymph nodes, suggesting the diagnosis of a solid pseudopapillary neoplasm (SPEN).

The patient underwent splenectomy and distal pancreatectomy. Her perioperative and postoperative courses were uneventful, although a wound seroma developed. Histopathological examination confirmed SPEN with moderate nuclear atypia and areas of necrosis. The spleen showed mild splenomegaly and multiple firm subcapsular nodules (Figure 1). Histopathology of the spleen revealed cylindrical fragments of microfilariae within eosinophilic abscesses and foreign body granulomas (Figures 2A and 2B).

Following the diagnosis, the patient was treated with diethylcarbamazine (DEC) at a dosage of 6 mg/kg/day for 3 weeks, leading to the resolution of eosinophilia. Eosinophilia is classified into primary (clonal) and secondary (reactive) types, with various underlying causes, including infections, autoimmune disorders, malignancies, and medications [1]. In this case, extensive assessments, including FISH analysis, failed to identify specific primary causes, necessitating an investigation for infectious origins, particularly filariasis.

Figure 1. Mild splenomegaly with subcapsular multiple firm nodules of sizes ranging from 2 mm to 5 mm.

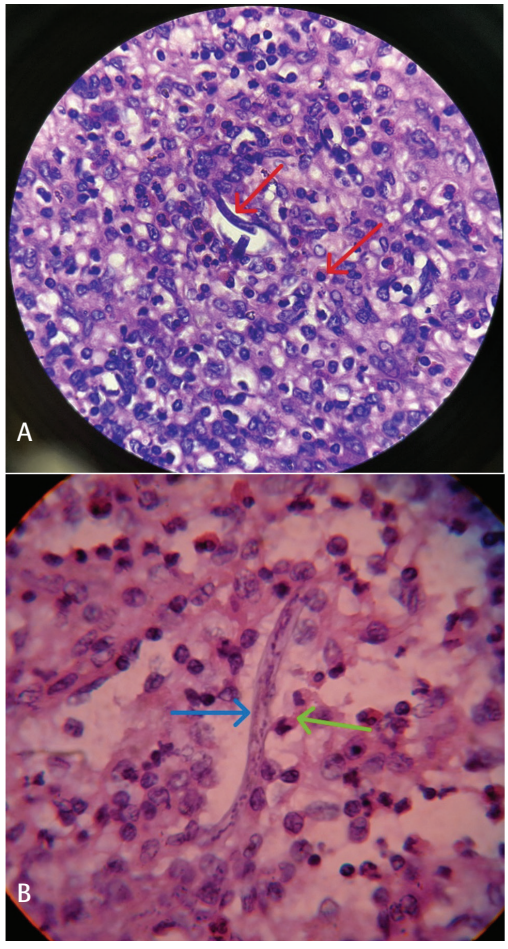

Figure 2. (A, B) Splenic red pulp showing cylindrical fragments of microfilariae within eosinophilic abscesses with foreign body granuloma.

Microfilariae, the larval stages of filarial worms, can accumulate in the spleen, eliciting an inflammatory response characterized by eosinophil infiltration and granuloma formation [2]. Histopathological analysis confirmed microfilariae within eosinophilic abscesses, consistent with the existing literature [3]. Splenic involvement in filariasis is uncommon, often presenting as an abdominal mass or splenomegaly in asymptomatic patients.

This case highlights the diagnostic challenges in differentiating splenic filariasis from other conditions, which can lead to unnecessary surgeries. Comprehensive evaluation, including imaging and histopathology, is crucial for accurate diagnosis, as peripheral blood smears may miss microfilariae. The incidental finding of microfilariae after splenectomy emphasizes the need for heightened awareness of atypical presentations of filarial infections.

DEC remains the primary treatment for lymphatic filariasis and is effective for splenic microfilariasis [4]. The resolution of eosinophilia after DEC supports its efficacy, aligning with findings in endemic regions. This case underscores the intricate relationship between eosinophilia and parasitic infections, particularly in endemic areas. It highlights the importance of considering filariasis in unexplained eosinophilia cases and the necessity of histopathological examination for definitive diagnosis. Clinicians should remain vigilant for atypical presentations and utilize appropriate treatments to mitigate complications, contributing to the understanding of parasitic infections in hematological abnormalities.

Keywords: Eosinophils, Clonality, Spleen

Anahtar Sözcükler: Eozinofiller, Klonalite, Dalak

Ethics

Informed Consent: Informed consent was obtained.

Footnotes

Authorship Contributions

Surgical and Medical Practices: B.K., I.R., S.S.; Concept: B.K., S.S.; Design: B.K., S.S., M.N.C.K.; Data Collection or Processing: B.K., S.S.; Analysis or Interpretation: B.K., S.S.; Literature Search: B.K., S.S.; Writing: B.K., M.N.C.K.

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References

1. Bakhshi GD, Borisa AD, Wankhede KR, Thadeshwar NR. Isolated splenic filariasis-a diagnostic dilemma!!! Bombay Hosp J. 2012;54:304-306.
2. Andola SK, Anita AM, Yevoor K, Patil R. Extralymphatic filarial disease in spleen (occult filiariasis)-a report of 2 cases. RGUHS J Med Sciences. 2012;2:61-63.
3. Basu A, Kumar A, Manchanda S, Wig N. Filarial huge splenomegaly dramatically regressed by anti-filarial medication: a rare clinical scenario. Intractable Rare Dis Res. 2017;6:215-218.
4. American Academy of Pediatrics (AAP). In: Kimberlin DW, Barnett ED, Lynfield R, Sawyer MH (eds). Red Book: 2021-2024 Report of the Committee on Infectious Diseases. Itasca: American Academy of Pediatrics, 2021.

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