Severe bone marrow aplasia and Coombs-positive autoimmune hemolytic anemia in microfilariasis - coincidental or causal?

Mikrofilariaziste ağır kemik iliği aplazisi ve Coombs-pozitif otoimmün hemolitik anemi- sebep mi, rastlantı mı?

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A 28-year-old male presented with generalized weakness, fever, high colored urine and severe anemia, icterus and petechiae. His hemoglobin (Hb) and total leukocyte, platelet and absolute reticulocyte counts were 34 g/L, $1.8x10^9$/L, $32x10^9$/L, and $28x10^9$/L, respectively. Blood smear examination showed marked RBC agglutination, few spherocytes, neutropenia with an absolute neutrophil count (ANC) of 50/µL, and Wuchereria bancrofti microfilariae (Figure 1a). Both direct and indirect Coombs tests (DCT, ICT) and urine hemosiderin were strong-positive. Hams, sucrose lysis tests and gel card test for paroxysmal nocturnal hemoglobinuria (PNH) were negative. Serum chemistries showed unconjugated hyperbilirubinemia (6.5 mg/dl) and elevated lactate dehydrogenase (LDH) levels (345 U/L). Viral serology and antinuclear antibodies (ANA) and dsDNA were negative. Bone marrow trephine biopsy showed markedly hypocellular marrow spaces with less than 5% cellularity (Figure 1b,1c). Both aspirate smears and trephine biopsy showed many Wuchereria bancrofti microfilariae (Figure 1d). He was started on diethylcarbamazine (DEC) (6 mg/kg/day), prednisone (60 mg/day) and cyclosporine (200 mg/day) and was reviewed after six weeks, when he showed improvement of anemia and icterus with a Hb and serum unconjugated bilirubin of 6.5 g/dl and 2.8 mg/dl, respectively. However, his cytopenias remained unimproved. Repeated DCT and ICT were both negative. This case highlights a possible co-evolution of two hematological disorders with an immunological etiopathogenesis triggered by chronic filarial infestation.

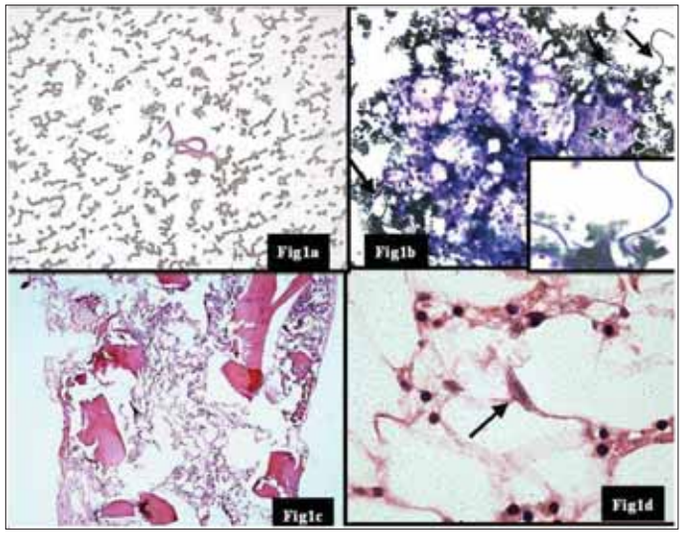

Fig1a: Peripheral blood smears showing Wuchereria Bacrofti microfilariae and RBC agglutination (Leishman stain, X 400 magnification) **Fig1b:** Bone marrow aspirate showing hypocellular particle with microfilariae (Giemsa, X 400 magnification); Inset: Microfilarie (oil immersion) **Fig1c:** Bone marrow trephine biopsy showing markedly hypocellular spaces (H&E, X200 magnification). **Fig1d:** Bone marrow trephine biopsy showing fragmented microfilariae (H&E, oil immersion)

References

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