

## Images in this Issue Preventive & Social Medicine



# A Case of Severe Lead Poisoning with Basophilic Stippling Teardrop Cell

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#### Disclosure

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The authors have no potential conflicts of interest to disclose.

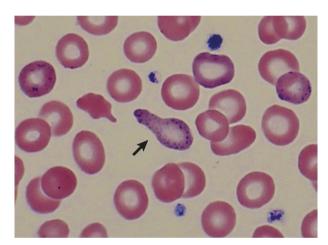


Fig. 1. Basophilic stippling teardrop of a red blood cell on peripheral blood smear.

In November 2018, a 50-year-old man has received emergency room and gastrointestinal medical care several times due to severe abdominal pain and 11-kilogram weight loss that occurred 3 months ago. Various tests were performed, but no cause of severe periumbilical abdominal pain was found (abdominal computed tomography, ultrasonography, upper gastrointestinal endoscopy, and colonoscopy). Blood tests showed microcytic hypochromic anemia (hemoglobin, 8.7 g/dL; red blood cell, 3.31 × 10<sup>6</sup>/mm<sup>3</sup>; hematocrit, 27.9%). And basophilic stippling teardrop of red blood cells was observed in the peripheral blood smear (Fig. 1). After several interviews, the patient revealed that he had been taking traditional herbal medicine for about half a year. He bought the ingredients for the herbal medicine himself at various traditional markets and made and took them himself. The worse the patient got, the harder he took the herbal medicine. Tests were conducted on heavy metals, and the blood lead level was 164 μg/dL (adult normal limit, 10 μg/dL).<sup>1,2</sup> The cause of severe periumbilical abdominal pain was lead colic.<sup>3</sup> Other heavy metals test results were within normal limits (urine mercury, 2.252 μg/L; blood mercury, 1.495 μg/L; urine cadmium, 1.58 μg/g creatinine; blood cadmium, 0.95 μg/L; urine nickel, 3.67 μg/L; blood manganese, 4.37 μg/L; urine arsenic, 107.016 μg/L; blood zinc, 75 μg/dL; blood copper, 95 μg/dL). He was hospitalized 16 days and had chelation treatment (dimercaptosuccinic acid 600 mg twice a day for 14 days).<sup>4,5</sup> After a month, the blood lead level fell to 75.2 µg/dL and was able to return

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#### **Author Contributions**

Conceptualization: Park WJ. Investigation: Lim DY, Kim S. Writing - original draft: Kang W. Writing - review & editing: Cho S, Park WJ. to manual work. The patient is receiving periodic cognitive therapy to correct the wrong belief about herbal medicine.<sup>6</sup>

Tear-drop, also known as dacrocyte, is tapered to a point at one end, resembling the classic artist's rendition of a drop of water. Tear-drop is a type of poikilocyte. It is a nonspecific finding seen in several conditions, including myelofibrosis and myelodysplastic syndromes. Basophilic stippling, also known as punctate basophilia, is fine, medium, coarse blue granules due to abnormal aggregated ribosomes. Basophilic stippling is often observed with increased red blood cell production. These occurred in clinical conditions such as anemia, thalassemia, myelodysplasia, pyrimidine 5′-nucleotidase deficiency, and post-chemotherapy. 7.8 Basophilic stippling cells are also commonly observed in patients with severe lead poisoning. 9-11 However, it is rare for teardrop variations to be accompanied. According to our knowledge, there are no reports on basophilic stippling teardrop cell, so we have reported this case.

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