



# Many Segments in Neutrophils of a Patient With Megaloblastic Anemia



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**Running Title** Many Segments in Hyper Segmented Neutrophils



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## Case Summary

**M**egaloblastic anemia is a form of macrocytic anemia that disrupts nucleic acid metabolism and reduces cell division. The most common causes of megaloblastic anemia are vitamin B12, folate, or copper deficiency; drugs; alcohol; thyroid; and liver diseases. In laboratory tests of a patient with megaloblastic anemia, the first clue is anemia with high Mean Corpuscular Volume (MCV above 110 to 115 fL) and neutrophils with more than five distinct lobes (hypersegmented neutrophils) in the peripheral blood smear [1, 2].

The sensitivity of this finding for the diagnosis of megaloblastic anemia is 98% in the presence of at least one neutrophil with 6 lobes or more [3]. Here is an image of a peripheral blood smear of a 56-year-old man with megaloblastic anemia due to B12 deficiency. He had come to our ward with a chief complaint of weakness and lightheadedness. In laboratory tests, he had pancytopenia with high MCV. His peripheral blood smear is shown in the [Figure 1](#). The interesting point of this patient is the peripheral blood smear with more than 8 neutrophil segments.

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**Figure 1.** Hypersegmented neutrophils in peripheral blood smear

## Ethical Considerations

### Compliance with ethical guidelines

All of the authors conduct themselves in accordance with professional ethics.

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### Conflict of interest

The authors declared no conflict of interest.

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