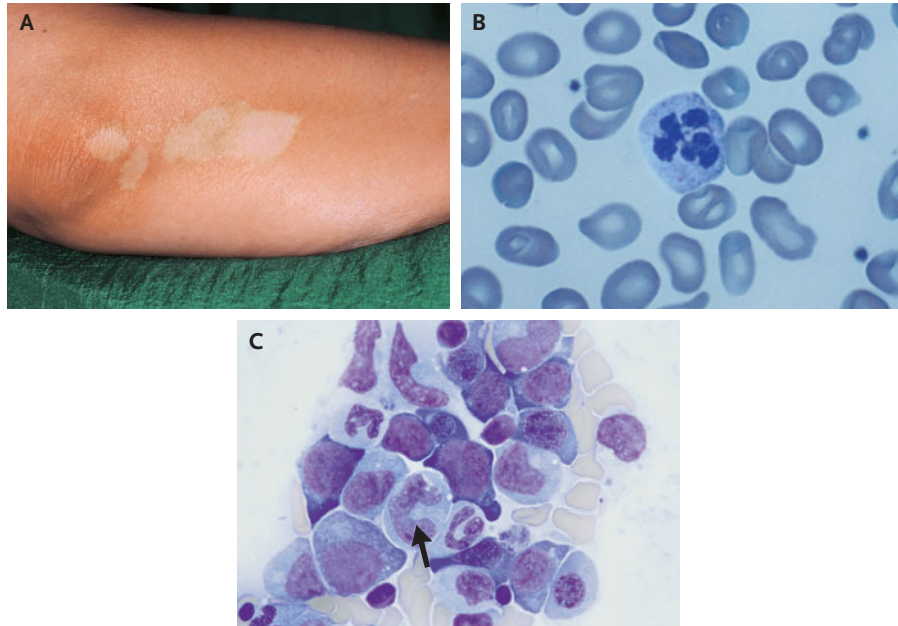


45-year-old woman with a 17-year history of vitiligo (panel A) was evaluated because of persistent fatigue. She was found to have pancytopenia (white-cell count, 3200 per cubic millimeter; hemoglobin level, 8.1 g per deciliter; and platelet count, 147,000 per cubic millimeter) with macrocytosis (mean corpuscular volume,  $125 \mu\text{m}^3$ ) and hypersegmented PMNs (Panel B; X100). What is the likely diagnosis?

## IMAGES IN CLINICAL MEDICINE

## Vitiligo and Pernicious Anemia



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**A** 45-YEAR-OLD WOMAN WITH A 17-YEAR HISTORY OF VITILIGO (PANEL A) was evaluated because of persistent fatigue. She was found to have pancytopenia (white-cell count, 3200 per cubic millimeter; hemoglobin level, 8.1 g per deciliter; and platelet count, 147,000 per cubic millimeter) with macrocytosis (mean corpuscular volume,  $125 \mu\text{m}^3$ ) and hypersegmented polymorphonuclear leukocytes (Panel B; hematoxylin and eosin,  $\times 100$ ). The serum vitamin B<sub>12</sub> level was 84 pmol per liter (normal range, 220 to 660). The serum folate level was normal. Erythroid hyperplasia with left-shifted megaloblastic erythropoiesis and giant metamyelocytes (Panel C, arrow; hematoxylin and eosin,  $\times 100$ ) was seen in the marrow aspirate. Gastric biopsy (specimen not shown) revealed severe alterations of the mucosa with glandular atrophy and intestinal metaplasia. The diagnosis of chronic atrophic gastritis type A (autoimmune) was supported by the finding of markedly elevated serum levels of antibodies to gastric parietal cells (1:260; normal value,  $<1:10$ ). The patient was treated with intramuscular vitamin B<sub>12</sub>, and the hematologic abnormalities completely resolved.

Increasing evidence suggests that vitiligo is an autoimmune disorder. It may be associated with other autoimmune diseases, such as pernicious anemia, rheumatoid arthritis, type 1 diabetes, alopecia areata, and diseases of the thyroid gland, or it may be a manifestation of a polyglandular autoimmune syndrome.

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