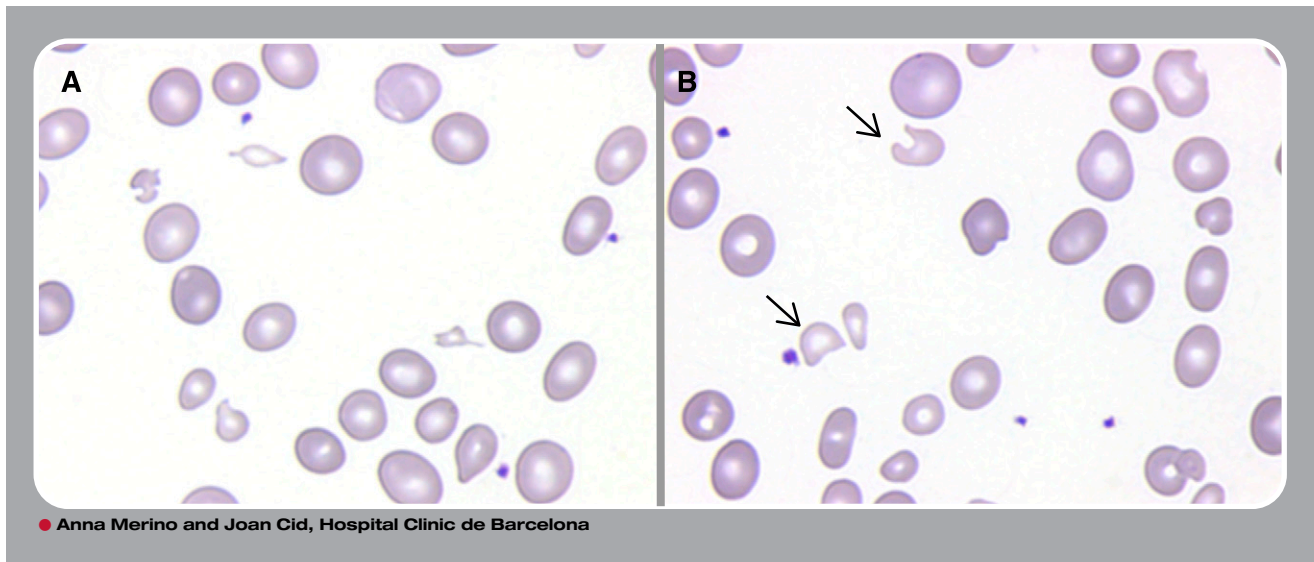


## Very unusual presentation of pernicious anemia with schistocytes in peripheral blood



**A** 36-year-old man without any relevant past medical history presented with asthenia for 3 to 4 weeks. A physical examination showed pale conjunctivae and skin. An automatic blood cell count revealed advanced anemia (hemoglobin, 58 g/L), high mean cell volume (129 fL), low white blood cell count ( $3.3 \times 10^9/L$ ), and normal platelet count. Reticulocyte values were  $72 \times 10^9/L$ . A peripheral blood (PB) film revealed anisocytosis, red blood cell fragments (panel A), some bite cells (panel B, arrows), and oval macrocytes. Serum lactate dehydrogenase levels were elevated (3100 U/L) and the bilirubin value was 1.8 mg/dL. Coagulation parameters were normal and direct antiglobulin test was negative. Microangiopathic hemolytic anemia (MAHA) was suspected. On reevaluation, his vitamin B<sub>12</sub> value was low (150 pg/mL [normal, 250-1050]) and ADAMTS13 testing was 70%. The presence of antiintrinsic factor antibodies was confirmed, and gastrointestinal endoscopy revealed atrophic gastritis.

We report a very unusual presentation of pernicious anemia (PA) with schistocytes in PB that was initially diagnosed as MAHA. Morphologic erythrocyte changes in PA may include the presence of red cell fragments, which should not be considered evidence of MAHA. The presence of bite cells and oval macrocytes, along with the schistocytes in PB, can be useful in determining the correct diagnosis.