Q Fever and Hemolytic Anemia

Syndrome and diagnosis. A previously healthy 26-year-old man was hospitalized because of high fever and dyspnea. At the time of admission he had a 15-day history of dry cough, asthenia, headache, and fever of 39–40 °C. During the last two days he had been receiving amoxicillin (2 g per day). The patient appeared very sick, with yellowish and pale conjunctivae, tachypnea, rales in the right lung, and hepatosplenomegaly. A roentgenogram of the thorax showed pneumonia of the right basal lobe. Erythromycin (2 g per day) was given. By the third day, the patient was apyretic, and the radiological signs progressively normalized. Sputum and blood cultures and CF tests for influenza virus (types A and B), adenovirus, and Mycoplasma pneumoniae were negative in two determinations. The second of two serologic tests for Coxiella burnetii was positive (titer, 1:256). Tests for typhoid fever, brucellosis, infectious mononucleosis, and toxoplasmosis were negative.

Unique features. Laboratory tests of the patient's blood at the time of admission gave the following results: erythrocyte count, 299 x 10^12/liter; hemoglobin level, 10.1 g/dl; hematocrit value, 28.4%; and percentage of reticulocytes, 0.2% (5.98 x 10^9/liter). Twenty-four hours later the results of laboratory tests were as follows: erythrocyte sedimentation rate, 143 mm/hr; erythrocyte count, 246 x 10^12/liter; hemoglobin level, 7.9 g/dl; hematocrit value, 21%; and percentage of reticulocytes, 6.9% (169 x 10^9/liter). Other values were as follows: mean corpuscular volume, 93 fl; mean corpuscular hemoglobin, 33.5 pg; iron level, 98 g/dl; leukocyte count, 6.8 x 10^9/liter (17% band forms); thrombocyte count, 159 x 10^9/liter; aspartate aminotransferase, 24 IU/liter; alanine aminotransferase, 17 IU/liter; lactate dehydrogenase, 709 IU/liter; total bilirubin level, 2.9 mg/dl (indirect [unconjugated] bilirubin level, 2.0 mg/dl) y-glutamyltransferase level, 31 IU/liter; and alkaline phosphatase, 46 IU/liter. Urine analyses were normal. Results of tests for lupus erythematosus-related phenomena and antibodies to nuclear components and DNA were negative. Coombs's tests (direct and indirect) also gave negative results. The cold agglutination titer was 1:20 (the test was not repeated). Levels of intraerythrocytic enzymes and results of hemoglobin electrophoresis and of a test for nocturnal paroxysmal hemoglobinuria were normal.

The patient received a transfusion of two units of packed red blood cells, and steroids were given. Eight months later, he was in excellent health, and hematological analyses were entirely normal.

Conclusion. Acute hemolytic anemia is a characteristic feature of some atypical pneumonias but not of pneumonia due to C burnetii. Mild anemia has been described as a common feature in patients with acute and chronic Q fever, but its explanation is obscure [1]. Microangiopathic hemolytic anemia has been reported in rickettsial infections in association with thrombocytopenia. Low titers of cold agglutinins and positive Coombs's test results without biological or clinical anemia have also been described [1]. The acute hemolytic anemia in our patient was the most important feature, and to our knowledge the association of acute hemolytic anemia with Q fever pneumonia has not been reported previously. The presence of cold agglutinins at low levels suggests a striking pathogenetic relation between the two factors, since other hematological tests for hemolytic anemia were negative, the platelet count and the erythrocyte morphology were normal, and amoxicillin-induced hemolytic anemia has not been described [2]. A diagnosis of Q fever must also be considered in cases of acute pneumonia with severe hemolytic anemia, even when the patient lives in an urban area, because of the multiple sources of infection [3].

F. CARDELLACH, J. FONT, A. G. N. AGUSTI, M. INGELMO, A. BALCELLS
Clinica de Patologia General, Hospital Clinico y Provincial, Universidad de Barcelona, Barcelona, Spain

References