AUTOIMMUNE HEMOLYTIC ANEMIA IN A PATIENT WITH ENDOBRONCHIAL TUBERCULOSIS

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ABSTRACT - A 23 year old male presented with severe autoimmune hemolytic anemia in association with constitutional symptoms suggestive of TB with calcified lesion on X ray chest. A diagnosis of endobronchial TB was confirmed with bronchoscopy and sputum for Ziehl Neelsen stain was positive and the patient responded to antituberculosis treatment. There are few case reports of autoimmune hemolytic anemia with endobronchial TB.
KEY WORDS- Autoimmune hemolytic anemia, Endobronchial lesion, Tuberculosis.

INTRODUCTION: Tuberculosis is usually associated with small degree of hematological abnormalities like iron deficiency anemia, thrombocytopenia, leucopenia, pancytopenia, Leukemoid reaction etc, but hemolytic anemia associated with pulmonary tuberculosis is rare. We report a case of autoimmune hemolytic anemia due to endobronchial pulmonary tuberculosis in a young man.

CASE HISTORY: A 23 year old male presented to Pulmonary Medicine department of our hospital with complaints of high grade fever, dry cough , loss of appetite since 1 1/2 month. There was no history of hematologic disorder or blood transfusion and the patient was not on any drugs. He had past history of Antituberculosis treatment 12-13 months back for 6 months. The family history was not significant. On examination temperature was normal, Pulse - 100/min, BP- 100/70 mm of Hg. He had no palpable lymph nodes. Systemic examination of respiratory, cardiovascular and abdomen was normal. Chest x ray showed bilateral old calcified lesions suggestive of old Pulmonary TB. CT scan of thorax showed features of old tubercular infection.

USG abdomen showed hepatosplenomegaly. The lab findings were as follows- Hb-5.4 g/dl, PC-2.4lakh/dl, Reticulocyte Count-18.5%, T Bil-4.2mg/dl , Direct Bil-1.8mg/dl,

SGPT-165 IU/L, LDH-1240mg IU/L, Haptoglobin level was below the detection limit of 6mg/dl. The serum levels of blood urea nitrogen, creatinine and Glucose 6 phosphate were normal. The peripheral blood smear films for blood cells and parasites had significant polychromasia and anisocytosis and presence of normoblasts but there were no plasmodia and microfilaria. The direct Coombs test was positive , but Osmotic fragility and hemoglobin electrophoresis were normal. Serologic tests for antinuclear antibodies , cold hemagglutinin , serum HIV were negative. Blood and sputum AFB were negative. In bronchoscopy there was presence of endobronchial lesion in right main bronchus , biopsy was taken and HPE showed granulomatous lesion which was positive for AFB. Bone marrow aspirate showed erythroid hyperplasia. Pt was started on antituberculosis treatment with Category II under DOTS. The patient responded well to treatment. His symptoms subsided within 2 weeks after initiation of therapy. Serial tests of hemolysis showed improvement. After 1 month of treatment Hb - 6.8, TC - 8530, Pl-2.1lakh/dl, LDH-450mg/dl, T.Bil-2.0mg/dl, Direct Bil-0.7mg/dl, SGPT-46mg/dl, Reticulocyte count-6.5%, Haptoglobin- 65mg/dl.

DISCUSSION: Anemia is present in 63% of miliary tuberculosis patients. Several mechanisms[1] have been proposed- nutritional deficiency, failure of iron utilization, malabsorption syndrome and marrow suppression. The association of autoimmune hemolytic anemia with tuberculosis is extremely rare. An early experimental study[2] in Germany showed that the injection of tubercle bacilli or their products produce hemolytic anemia, pancytopenia and myelofibrosis in small animals. In humans , disseminated tuberculosis[3] may occasionally provoke a marked proliferation of reticuloendothelial tissues, resulting in varied and severe hematologic disorders through immune mechanisms.

Regarding therapy, in hemolysis associated with tuberculosis therapy alone, steroids are useful in addition to antituberculosis treatment if there is severe hemolysis. There is one case report[4] of autoimmune hemolytic anemia in association with miliary TB that required splenectomy. In this case report, low haptoglobin level and positive direct coomb's test were evidence of severe intravascular hemolytic process in which the rate of haptoglobin catabolism exceeded the rate of synthesis. The patient responded well to anti-tuberculosis treatment. Haptoglobin level recovered to normal level within a month , however size of spleen did not reduce.

In summary disseminated tuberculosis should be suspected as one of the cause of autoimmune hemolytic anemia. One should start empiric antituberculosis treatment without delay in such type of cases.

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