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Pure Red Cell Aplasia of Pregnancy - A Potentially Fatal and Rare Entity

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Abstract: PRCA associated with pregnancy is a rare entity but potentially fatal if left undiagnosed. Very few cases are reported in literature. Misdiagnosis leads to unnecessary treatment modalities such as administration of steroids or termination of pregnancy. The disease presents with early onset of Anaemia and is characterised by spontaneous recovery soon after delivery. Anaemia does not respond to haematinics and adverse fetal outcome may result if the hemoglobin level is not adequately monitored and maintained. PRCA associated with pregnancy needs to be diagnosed at its early stages and treated accordingly in order to prevent any fatal outcome. We present one such rare entity with an emphasis on its clinical significance.

Key words: Pure Red Cell Aplasia · Pregnancy · Anemia

INTRODUCTION

Anemia during pregnancy is mainly associated with iron/folic acid deficiency or hemodilution [1-3]. Literature shows very few cases of Pure red cell aplasia (PRCA) reported during pregnancy. It is very important to distinguish PRCA from aplastic Anemia. Administration of corticosteroids or termination of pregnancy is not essential and should be avoided. PRCA during pregnancy should be managed symptomatically until labor since recovery is spontaneous after delivery [4, 5].

Case Report: 30 -year-old antenatal patient presented with Anemia not responding to hematinic. Laboratory blood results showed severe normocytic normochromic anemia with Hb 8.2 gm %, MCV of 102 fl, normal white cell count, normal platelet count and reduced reticulocyte count of 0.2%. Bone marrow aspiration was done. Overall marrow cellularity was mildly reduced. Differential counts done on 1000 cells showed 8 erythroid precursors and 682 myeloid precursors, 310 cells were mature cells including neutrophils, eosinophils and lymphocytes (Figure 1 and Figure 2). Percentage of erythroid precursors was 0.8%.

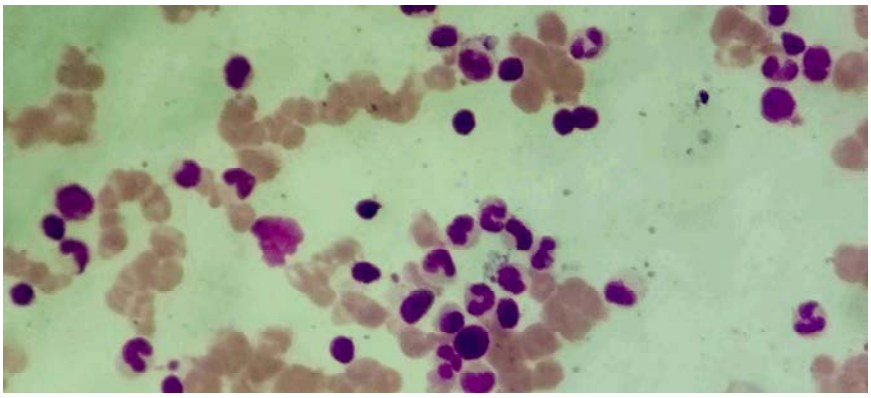

Fig. 1: Shows bone marrow smears showing myeloid precursors; 40X; Leishman stain

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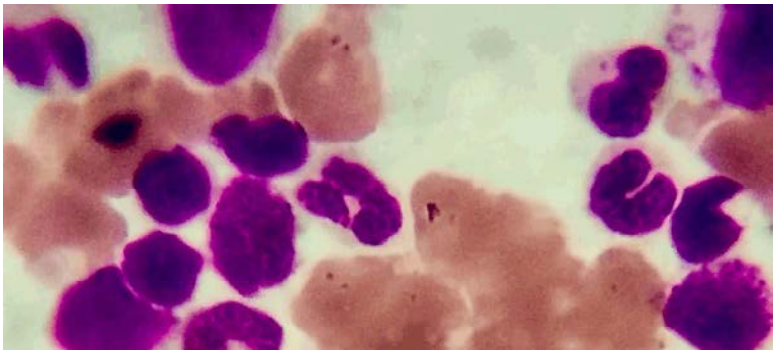

Fig. 2: Shows bone marrow smear showing myeloid precursors; 100X; Leishman stain

Myeloid: Erythroid ratio is 682: 8 that is 85: 1. The erythroid precursors were all erythroblasts. No proerythroblasts or basophilic erythroblasts were identified. Viral screening was negative. A diagnosis of pure red cell aplasia was made. Patient was managed with blood transfusion during labor Patient delivered a healthy baby with no other complications. Her Hemoglobin levels improved after delivery.

DISCUSSION

PRCA comprises a range of disorders resulting in failure of erythropoiesis lineage alone [6]. This syndrome is defined by Anemia, reticulocytopenia and reduced red cell precursor cells in the marrow. Red cells are generally normocytic or macrocytic occasionally. White cell count and platelet counts are within normal range. Although PRCA have been associated with drugs, viruses, immunological disorders, thymus and lymphoid malignancies, most PRCA are found to be idiopathic. Idiopathic PRCA are attributed to have an immunological basis [7].

PRCA in association with pregnancy is very occasional. It's mandatory to diagnose PRCA during pregnancy. It can be fatal if not treated appropriately since this Anemia does not respond to the usual treatment with hematinic. Hemoglobin levels need to be carefully watched throughout pregnancy and treated symptomatically [4, 7, 8]. IgG antibodies against blast forming unit - erythroid (BFU - E) have been demonstrated in these patients. The antibodies are not seen to cross the placental barrier. PRCA associated with pregnancy presents with early onset of anemia and is characterized by spontaneous recovery soon after labor. Recurrence can occur in subsequent pregnancies [7]. PRCA is different from that of aplastic anemia or other PRCA unrelated to pregnancy [5]. In our present case, PRCA was diagnosed based on reduced hemoglobin with normocytic normochromic red blood cells and extremely reduced red cell precursors in the bone marrow. Patient had a speedy recovery after delivery like any other previously reported cases [9].

CONCLUSION

PRCA associated with pregnancy needs to be diagnosed at its early stages and treated accordingly in order to prevent any fatal outcome.

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