

# Unilateral macular hemorrhage as the only presentation of megaloblastic anemia in pregnancy

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## ABSTRACT

A 22 year old unbooked female patient presented to our Prince Hashem Hospital in AL –Zarqa with labor pain. The patient was admitted to our labor room and delivered normally. Diagnosis of megaloblastic anemia was made after she developed left eye macular hemorrhage on the second day of delivery and confirmed by bone marrow biopsy .

**Keywords:** Megaloblastic anemia, pregnancy, macular hemorrhage.

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Megaloblastic anemia is the second most common cause of anemia after iron deficiency anemia in pregnancy. It is mainly due to folate deficiency because folate requirement increases during pregnancy,<sup>1,2</sup> and if it is severe there might be leukopenia and thrombocytopenia,<sup>3</sup> and abnormal ocular bleeding can result when thrombocytopenia is so severe.<sup>4</sup>

**Case Report.** A 22 year old female patient para one was admitted to the labor room complaining of labor pain. The patient was unbooked. Physical examination was normal, vaginal examination showed fully dilated cervix, packed cell volume (PCV) and blood group was taken for her as routine tests, she delivered vaginally with episiotomy within 10 minutes of admission. The second and third stages of labor were normal and episiotomy was repaired without bleeding.

On the second day the patient started to complain of sudden blurring of vision in the left eye, she was seen by ophthalmologist and ophthalmic examination result. (Table 1). Lab data results showed PCV result as 25%, blood group was B positive. Blood was also withdrawn for complete blood count, blood

film, serum ferritin, serum folate and serum vitamin B12 levels, liver function test (LFT) and lipid profile.

CBC results showed PCV 22%, WBC 2600, platelet count 27,000, retic count was 1%, MCV 120 fl, blood film macrocytic, normochromic RBCs, anisocytosis, poikilocytosis with macroovalocytosis, occasional nucleated RBC, hypersegmented neutrophils with leukopenia and thrombocytopenia. Serum ferritin 10ug/l, folate 2ng/ml, vitamin B12 was 220 pg/ml.

Bone marrow aspiration showed hypercellular with decrease myeloid/erythroid ratio, there is erythroblasts with delayed nuclear maturation and there is giant metamyelocytes and megacaryocytes are decreased. LFT and lipid profile were normal. The patient was treated as a case of megaloblastic anemia due to folate deficiency and she was started on 5 mg tab./day of folic acid, FeSo<sub>4</sub> tablets and vitamin B12 injection . After one week: PCV was = 25%, Retic count=10%. Then she was seen after one month and she claimed to have normal puerperium. Reassessment showed PCV = 36%, WBCs = 5600, Platelet count = 185,000. Ophthalmic follow up showed = VA 6/9 and the macular hemorrhage was

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**Figure 1** - Macular hemorrhage in left eye.

resolved.

**Discussion.** Megaloblastic anemias are disorders caused by impaired DNA synthesis. Cells primarily affected are hematopoietic precursors and gastrointestinal epithelial cells and mostly due to folate and vitamin B12 deficiency or both.<sup>5</sup> Megaloblastic anemia that begins during pregnancy almost always results from folate deficiency, and in the past it was referred to as pernicious anemia of pregnancy.<sup>6</sup> Folate deficiency develops due to inadequate intake or increased demand especially in pregnant women, so folate prophylactic is recommended for all women planning pregnancy and those who have had children with neural tube defects.<sup>3</sup>

When megaloblastic anemia is severe, there might be leukopenia, thrombocytopenia and optic

neuropathy with centrocecal scotoma and retinopathy characterized by flame shaped hemorrhages, cotton wool spots, venous tortuosity and if not treated permanent optic atrophy may occur.<sup>7</sup>

In our case, inspite of exposure of the patient to delivery and episiotomy, no other complications had occurred except for unilateral macular hemorrhage which was the only presentation of megaloblastic anemia. It was reported that 9 out of 10 patients with thrombocytopenia deliver normally.<sup>8</sup> Sudden reductions in hemoglobin levels are more likely to produce retinopathy than slow gradual reduction seen for example in association with pernicious anemia.<sup>9</sup>

In conclusion, diagnosis and treatment of anemia in pregnancy is to provide optimal health to the mother and infant. The objective of a good screening program is to reduce morbidity and mortality and thereby improve the quality of life.<sup>10</sup>

Nutritional anemia is recognized as a major public health throughout the world especially in developing countries,<sup>11</sup> so that women of reproductive age should take folic acid supplementation.<sup>1</sup> We recommend platelet count to be carried out for every pregnant patient even though some studies recommended avoiding this test because it places the women at risk from invasive procedures.<sup>10</sup>

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**Table 1** - Examination result by ophthalmologist.

Type of examination	Right eye	Left eye
Visual acuity	6/6	6/60
Lid	Normal	Normal
Conjunctiva	Normal	Normal
Cornea	Clear	Clear
Iris	Normal	Normal
Len	Clear	Clear
Fundus	Normal	Macular hemorrhage