

## **Anemia in Pregnancy (Updated Oct 2012)**

Anemia remains the commonest medical disorder complicating a pregnancy. It is even more prevalent in these parts of the world. Unfortunately, the management of such patients still remains sub optimal in most instances.

Almost all patients are labelled as anemia in pregnancy! What does that mean?

Is it physiological?

Is it iron deficiency?

Unfortunately, that term is too broad. We need to specifically classify the type of anemia. An example of an appropriate diagnosis would be iron deficiency anemia, Folate, Vit B 12 deficiency or Alpha or Beta Thalasemia.

The NICE guideline on routine antenatal care recommends that a haemoglobin level of less than 10.5g/dl in pregnancy needs to be investigated. (*Not 11g/dl as suggested by WHO*).

However, it may not be cost effective to religiously investigate mild anemia, keeping in mind that our resources and facilities are limited. Iron deficiency anemia is the most common type of anemia and a full blood count will reveal reduced MCV, MCHC and MCH. These patients can be empirically treated with therapeutic dosage of iron supplementations.

A full blood picture is not routinely required to confirm a hypochromic microcytic anemia unless the classical features of iron deficiency anemia are absent. Is it not cost effective to perform a battery of investigations for anemia. (eg FBP, Se Ferritin, TIBC, stool ova & cyst Hb electrophoresis, Hb analysis). A selective risk based approach would be a better option.

### **When do we need to investigate further?**

- 1) All moderate or severe anemias need to be investigated. (Hb<9g/dl). In these instances, do a serum ferritin and confirm the diagnosis of iron deficiency anemia if it is low. Use the Mentzer Index as a guide before thalasemia screen (*see below*).
- 2) If compliance is not an issue but there is no response to iron supplementations after at least 3 weeks of treatment (haemoglobin increases by 0.3g/week), that is indication for further investigations. These patients would need a Serum Ferritin, stool for ova & cyst for hookworm infestations and a thalasemia screen.

### **When do we need to investigate for thalassemia?**

- 1) In patients who have a significant family history of thalassemia
- 2) MCH is the most important screening parameter for thalassaemia. A low MCH (< 27pq) even with a normal haemoglobin levels is an indication to screen for thalasemia.
- 3) In thalassaemic patients, RBC s are normal or high.
- 4) Use the Mentzer index as a guide.

- MCV/RBC count < 13 favours thalassemia over iron deficiency.
  - This test has a high sensitivity but low specificity.
  - Basically in iron deficiency, the marrow can't produce RBCs and they're small so the RBC count will be low along with the MCV.
  - In thalassemia, RBC production is preserved, though the cells are small and fragile. So the RBC count is normal with a low MCV.
- 5) Iron deficiency anemia which does not respond to iron supplementations.

### **Essential pearls to remember**

- 1) Supplement with Vitamin C to increase absorption
- 2) At least 180mg/day of elemental iron is required for therapeutic treatment.

(Obimin – 30mg elemental iron, 200mg of ferrous Fumarate has got 60mg and Iberet has 105mg of elemental iron)

- 3) Haemoglobin increases about 0.3mg/week
- 4) Maximum dose of Ferrous Fumarate is 400mg BD

This can be complemented with the national guidelines.

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