

# **Guidelines For Prevention of Maternal Anaemia**

## **GUIDELINE FOR PREVENTION OF MATERNAL ANAEMIA**

As one of the important factors influencing maternal morbidity and mortality and also the health of the newborn, anemia has defied over three decades of public health intervention and continues to affect a majority of pregnant women in the state. Anaemia in pregnancy is associated with high maternal morbidity and mortality.

Maternal anemia is associated with poor intra-uterine growth and conceiving of low-birth-weight babies. This in turn could result in higher perinatal morbidity, infant mortality, developmental delays, reduction of placental weight, volume and surface area. There is a striking difference in the mean birth weight of the infants born of anaemic and non- anaemic mothers. This has resulted in 12 to 28 percent of foetal loss, 30 percent of perinatal deaths and 7 to 10 percent of neonatal deaths. Anaemia during the second trimester is associated with preterm birth. Preterm delivery is increased fivefold for iron deficiency anaemia and doubled for other anaemia. Fifteen to twenty percent of maternal deaths are directly or indirectly due to anaemia and the mortality is higher if postpartum haemorrhage occurs in anaemic mothers.

### **Causes for Anaemia in Women:**

- Low bio-availability of iron in food
- Inadequate intake of iron rich foods
- Excess consumption of coffee/ tea
- Chronic infections like malaria, TB
- Inadequate intake of folate
- Inadequate intake of Vitamin B 12
- Worm infestation
- Menstrual loss of blood

### **Clinical Indications:**

Intravenous iron is indicated for the treatment of iron deficiency in the following situations;

- Demonstrated intolerance to oral iron preparations
- A clinical need to deliver iron rapidly to replenish iron stores
- Active inflammatory bowel disease where oral iron preparations not tolerated or contraindicated
- Patient non-compliance with oral iron therapy

**Oral iron must not be administered concomitantly with a course of IV iron. Allow a period of 5 days after the final dose of IV iron.**

### **Contraindications:**

- Anaemia not attributable to iron deficiency
- Iron overload
- A history of hypersensitivity to parental iron preparations
- History of Cirrhosis of the liver

- Acute or chronic infection
- First trimester of pregnancy
- Acute renal failure
- Patients with a history of severe asthma, eczema or other atopic allergy

### **Compulsory Haemoglobin Estimation:**

Compulsory Haemoglobin Estimation by Cyanmeth-haemoglobin method by using Semi-autoanalyser or photo calorimeter at 14-16 weeks, 20-24 weeks, 26-30 weeks and 30-34 weeks of pregnancy for all pregnant mothers (minimum four Hb estimations). The interval between one haemoglobin estimation and another should have a minimum of four weeks.

#### **1. At 14-16 weeks-**

First Hb estimation has to be done at 14-16<sup>th</sup> week for all the antenatal mothers

- **If the Hb is more than 11 gms**, give prophylactic dose of IFA tablets.
- **If the Hb is 7.1-10.9 gms%**, give therapeutic dose of IFA tablets.
- **If the Hb is less than 7 gms %**, she has to be referred to CemOC centres for Blood Transfusion and further management.

Iron in the form of Ferrous Sulphate is the best choice. Preventive/Therapeutic form of oral iron therapy should be started after deworming.

**Prophylactic dose:** Tab. IFA (100 mg of iron with 0.5 mg of folic acid) once daily for 100 days.

**Therapeutic dosage:** Tab. IFA twice daily for 100 days.

#### **2. At 20-24 weeks-**

Second Haemoglobin estimation has to be done between 20 and 24 weeks of gestation for all AN mothers.

- **If the Hb is more than 11 gms**, give prophylactic dose of IFA tablets.
- **If the Hb is 9-10.9 gms%**, give therapeutic dose of IFA tablets.
- **If the Hb is 7.1-8.9 gm/dl. IV Iron sucrose infusion has to be given.**
  - **Intra venous infusion of Iron sucrose- 100 mg in 100 ml of Normal Saline infused over 20-30 minutes once a day X 4 days over a period of 2 weeks (with 2-4 days of interval between each infusion)**
  - **Discontinue oral iron therapy while IV iron sucrose infusion till next Hb estimation and decision (after 4 weeks if Iron sucrose infusion). Vitamin supplementation need not be withheld.**
- **If the Hb is less than 7 gms %**, she has to be referred to CemOC centres for Blood Transfusion and further management.

#### **3. At 26-30 weeks-**

Third Haemoglobin estimation has to be done between 26 and 30 weeks of gestation for all AN mothers. For Ante-natal mothers infused with iron sucrose

infusion during 20-24 weeks, Haemoglobin estimation has to be done after one month.

- **If the Hb is more than 11 gms**, assure and counsel to continue with prophylactic dose of IFA tablets.
- **If the Hb is 9-10.9 gms%**, assure and counsel the mother for further improvement of Hb% and continue with therapeutic dose of IFA tablets.
- **If the Hb is 7.1-8.9 gms%**
  - **For mothers who received iron sucrose infusion, give two top up doses of 100 mgs of Iron Sucrose Infusion with 2-4 days interval between each infusion.**
  - **For mothers who had not received Injection iron sucrose earlier during current pregnancy, give four doses of iron sucrose injection (100 mg in 100 ml of Normal Saline infused over 20-30 minutes once a day X 4 days over a period of 2 weeks with 2-4 days of interval between each infusion)**
- **If the Hb is less than 7 gms %, she has to be referred to CemOC centres for Blood Transfusion and further management.**

#### **4. At 30-34 weeks-**

All AN mothers have to be subjected to Hb estimation at 30-34 weeks irrespective of mode of management of anaemia previously.

- **If the Hb is more than 11 gms**, assure and counsel to continue with prophylactic dose of IFA tablets.
- **If the Hb is 9-10.9 gms%**, assure and counsel the mother for further improvement of Hb% and continue with therapeutic dose of IFA tablets.
- **If the Hb checked at 30-34 weeks does not improve (still less than 9 gms%),** refer to higher institution for Blood Transfusion and further management.

#### **GENERAL GUIDELINES:**

- **Trigger point for referral to higher institution**
  - a. Hb level of 7 gms% of haemoglobin at 14 weeks, 20-24 weeks, 26-30 weeks
  - b. Hb level of 9 gms% at 30-34 weeks
- **Tests to be done**
  - a. Hb estimation by Cyanmeth-haemoglobin method by using Semi-autoanalyser or photo calorimeter is mandatory in all institutions
  - b. Peripheral smear, MCV/ RBC ratio, Serum iron binding capacity may be done in medical college, DHQ Hospitals and institutions with facilities for these tests.

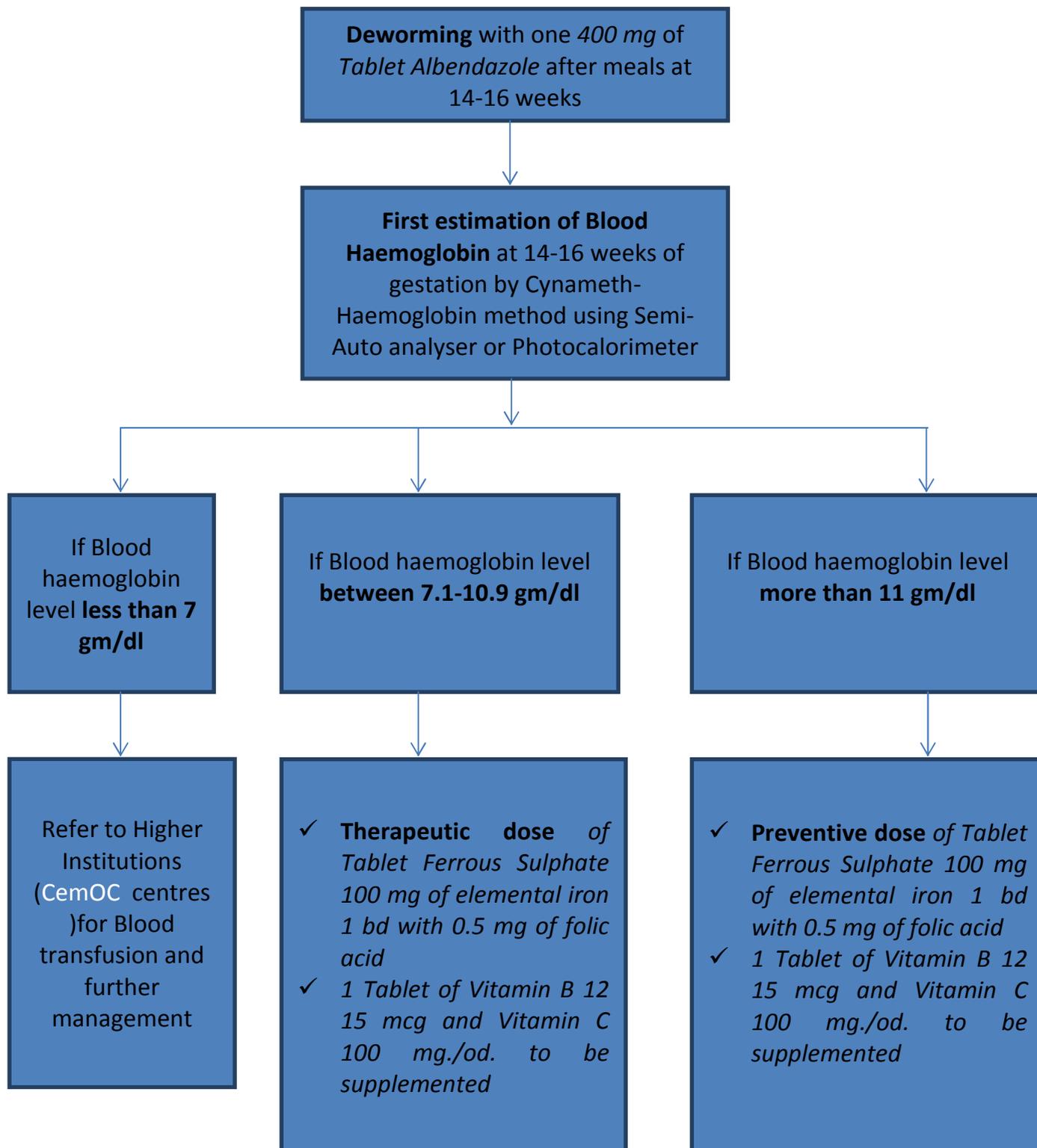
- c. To rule out refractory anaemia, urine should be checked for albumin, sugar and deposits. If deposits are more than 4-6 cells, then urine culture should be done.

### **Use of the Haemoglobin Colour Scale:**

The Haemoglobin colour Scale (HCS) a simple, rapid and cheap method for estimating haemoglobin concentration with a finger prick blood sample. The method relies on comparing the colour of a drop of blood absorbed onto a filter paper with standard colours on a laminated card, varying from pink to dark red. these colours correspond to haemoglobin levels of 4, 6, 8, 10, 12 and 14 gm/dl. Intermediate shades can be identified, allowing haemoglobin levels to be judged to 1 gm/dl. Haemoglobin Colour Scale(HCS) has been developed as an inexpensive, simple alternative for assessing anemia.

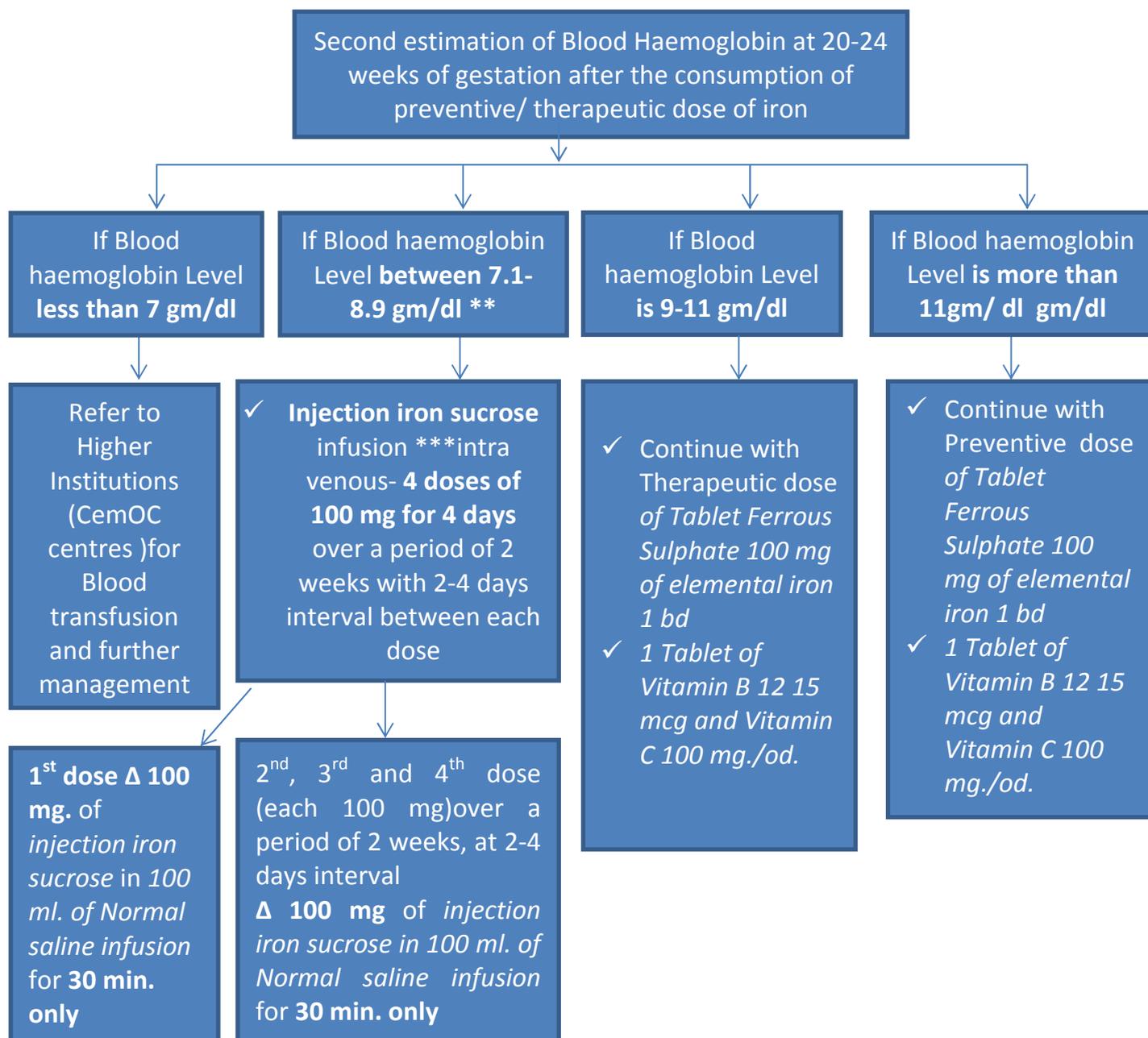
**GUIDELINES FOR MANAGEMENT OF MATERNAL ANAEMIA**  
**FLOW CHART**

**1) At 14-16 WEEKS OF GESTATION**



\* If the AN registration done earlier than 14 weeks then oral iron to be started from 12 weeks onwards

## 2) At 20-24<sup>th</sup> WEEKS OF GESTATION



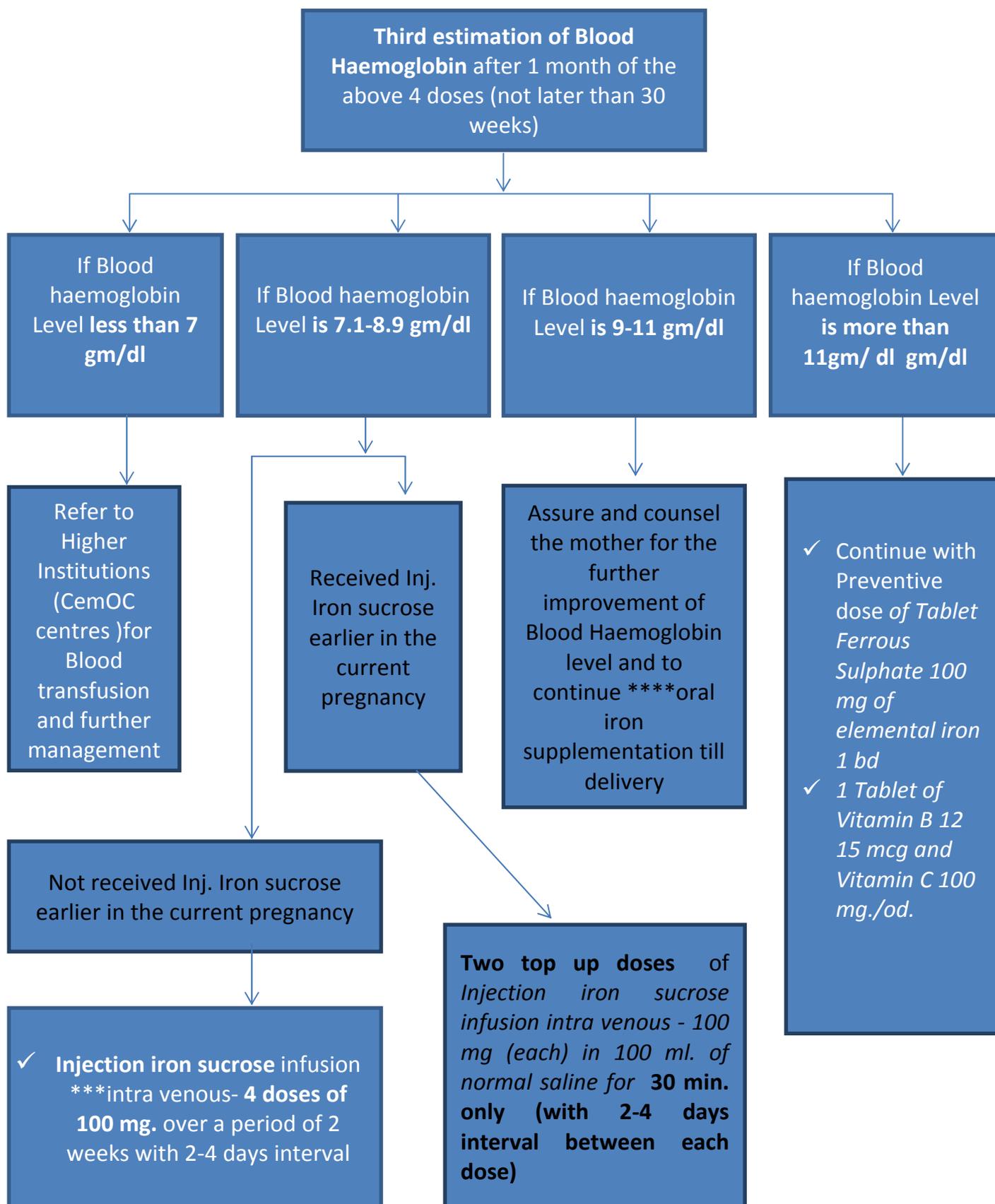
**\*\*Not to give oral iron while giving IV iron sucrose infusion. i.e., oral iron to be withheld till the 3<sup>rd</sup> estimation of Haemoglobin results**

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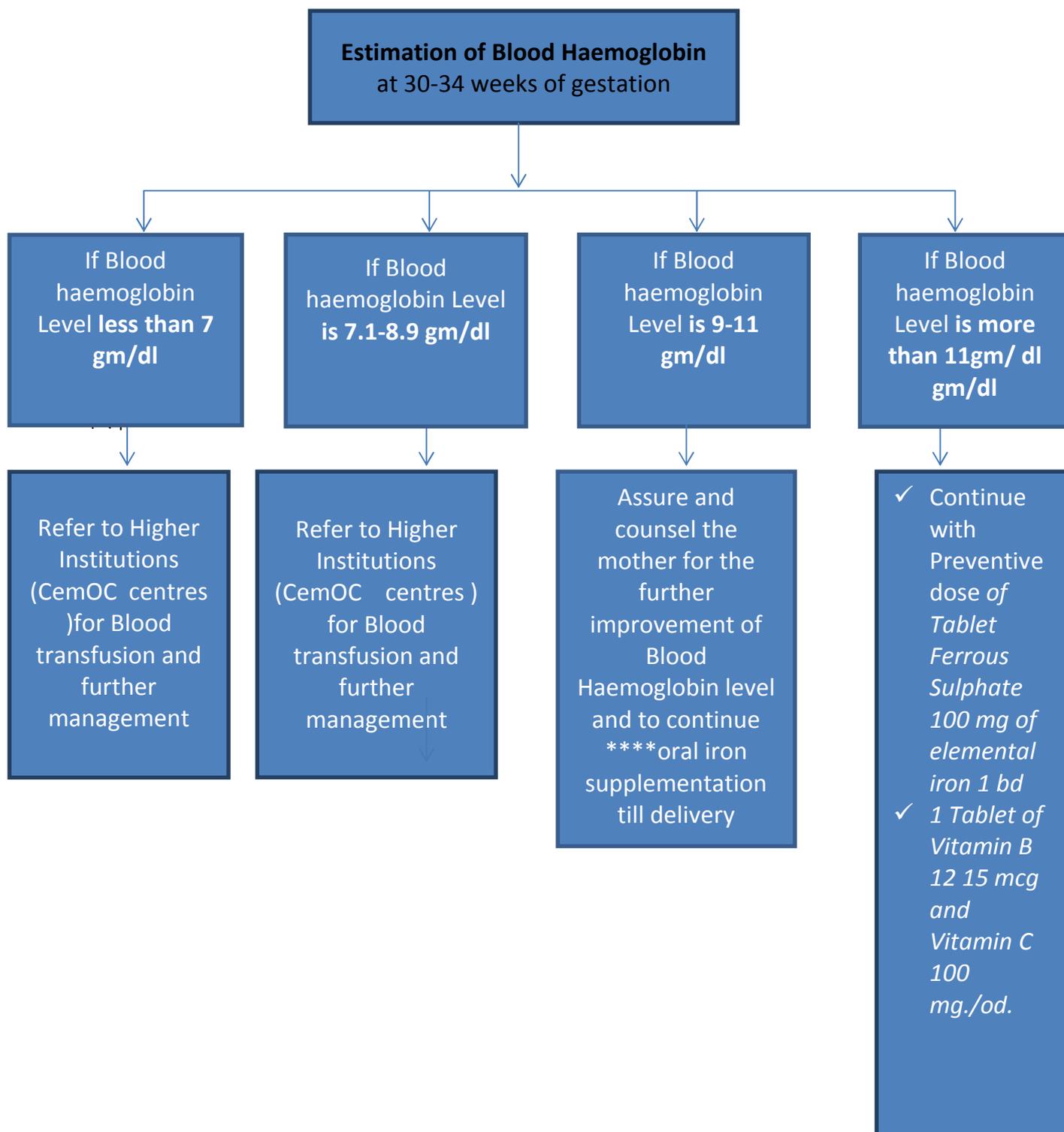
- If there is any allergic reaction like urticaria which can be treated with 100 mg. hydrocortisone (1 ml. IV)
- While giving iron sucrose injection care should be taken not to allow extravasation of iron sucrose.

**Δ Specification-** If the ampoule contains 50 mg. of iron, 2 ampoules to be used. If the ampoule contains 100 mg of iron 1 ampoule to be used. Total dose should be 100 mg. of iron in 100 ml. of Normal Saline for infusion at a time.

### 3) At 26-30 WEEKS OF GESTATION



#### 4) At 30-34 WEEKS OF GESTATION



\*\*\*\* Continue preventive dose of iron (100 mg. of elemental iron) + 0.5 mg. of folic acid till delivery