



A COMPARTIVE ANALYSIS IN EASTERN PART OF UTTAR PRADESH ASSESSING THE SAFETY AND EFFICACY OF INTRAVENOUS IRON SUCROSE VS INTRAMUSCULAR IRON SORBITOL FOR IRON DEFICIENCY ANEMIA IN PREGNANT WOMEN

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ABSTRACT

Background: Anemia is the most commonly haematological disorder in pregnancy. Anemia is associated with higher perinatal mortality and morbidity. In the developing countries like India more than two third pregnant women suffer from anemia out of which 95% of cases are due to Iron deficiency anemia. Iron deficiency anemia are due to poor nutrition and it is estimated to affect nearly two third of pregnant women in developing countries like India. **Aim:** To compare the safety and efficacy of intravenous iron sucrose with intramuscular iron sorbitol in pregnant women in eastern part of Uttar Pradesh. **Objectives:** To compare the safety of intravenous iron sucrose with intramuscular iron sorbitol. To compare efficacy of intravenous iron sucrose with intramuscular iron sorbitol. **Material And Methods:** 100 antenatal women attending outpatient department with haemoglobin 7-9gm/dl will be recruited randomly and then they are divided into two groups different group of 50 each. To the 50 patients group A iron sucrose is given and to 50 patients group B iron sorbitol is given. Then safety efficacy and adverse drug reaction with both the therapy were recorded. Result: Haemoglobin concentration raised significantly in both the groups. The increase rise in haemoglobin level in Group A and Group B significantly high in by the fourth week. But none of the group B case reached the target level of haemoglobin during this observation period. With iron sorbitol adverse event were common. However no serious adverse drug reactions were observed. **Conclusion:** Intravenous iron sucrose is found to be more safe and more efficacious and faster acting then intramuscular iron sorbitol therapy to treat for treating moderate to severe anemia in pregnant women.

KEYWORDS : Anemia, iron sucrose, iron sorbitol, haemoglobin**INTRODUCTION**

Anemia is most common hematological abnormality diagnosed during pregnancy¹. Most common cause of anemia in pregnant women is iron deficiency anemia because of which iron deficiency anemia is public health problem². In pregnancy iron deficiency anemia is exaggerated because of the ability of the foetus to extract its requirement in obligatory direction from a mother whose iron level is already depleted. Therefore, more amount of iron exceeding the daily requirement is to be supplemented^{3,4}. First choice in treatment of iron deficiency anemia for majority of patients is oral iron replacement therapy. Iron sucrose and iron sorbitol citric acid are widely used parenteral iron preparation.

Situations like failure of oral iron therapy or increase demand inspite oral iron therapy often necessitate parenteral iron therapy in anemic pregnant women. However, threat of unpredictable anaphylactic reaction by this conventional parenteral iron preparation prevented their wide use. Some of the studies suggests that new parenteral iron preparation is safe and effective for management of anemia and can be administered without test dose⁵⁻⁷.

To overcome this, current practice is to give parenteral iron in a predefined fixed dose followed by oral or parenteral iron therapy according to severity of anemia. This has shown to increase compliance as well as decrease in economic burden on the pregnant women in rural areas.

So now, study is aimed to compare the efficacy and safety of intravenous iron sucrose with intramuscular iron sorbitol citric acid as per current practice in this area in pregnant female in Azamgarh Uttar Pradesh.

MATERIAL AND METHODS

- This is an prospective observational study for which patients are recruited from the obstetrics and gynecology outpatient department or inpatient department from

government medical college, Azamgarh.

- They were screened before participating in study and then they were diagnosed on the basis of history and biochemical investigation.
- Benefits and possible risk factors are explained to the patient.
- After explaining the entire scope of the study to the patient 100 patients are recruited from the sample.
- Then written informed consent was obtained.
- After which patients were randomly divided into two different group.

Inclusion Criteria

Female with singleton more than 16weeks gestation diagnosed with iron deficiency anemia with haemoglobin 8gm/dl or less and who consented to study.

Exclusion Criteria

- The cases having hemoglobin more than 8gm/dl.
- Gestation age less than 16 week.
- History of allergic reaction to previous iron therapy.
- Anemia due to any other cause other than iron deficiency anemia.

RESULT

Variable	Group A	Group B	P value
Age Mean $\pm$ SD	26.8 $\pm$ 5.2	27.3 $\pm$ 5.3	0.66
Group A had an average of 26.8 $\pm$ 5.2 and group B 27.3 $\pm$ 5.3.			

The median gestational age among group A and B were 20.9 $\pm$ 3.9 and 20.8 $\pm$ 4.2, respectively.

Variable	Group A (pre) Mean $\pm$ SD	Group A (post) Mean $\pm$ SD	P value
Hb	8.3 $\pm$ 0.6	11.3 $\pm$ 1.4	<0.001

Variable	Group B (pre) Mean $\pm$ SD	Group B (post) Mean $\pm$ SD	P value
Hb	8.2 $\pm$ 0.6	9.2 $\pm$ 1.2	<0.001

Adverse effects	Group A n (%)	Group B n (%)	P value
Brown pigmentation			
at site of injection	0 (0)	7 (14)	0.006
Constipation	5 (10)	3 (6)	0.461
Diarrhoea	4 (8)	3 (6)	0.695
Fatigue	1 (2)	3 (6)	0.309
Local			
Thrombophlebitis	3 (6)	0	0.079
Myalgia	6 (12)	5 (10)	0.749
Nausea	6 (12)	7 (14)	0.766
Pain	4 (8)	3 (6)	0.695
Tachycardia and dyspnoea	7 (14)	3 (6)	0.183
Upper GIT troubles	4 (8)	6 (12)	0.50

CONCLUSION

Iron deficiency anemia during pregnancy is common and requires special attention because of its potential consequences, oral iron is the first line of therapy in pregnancy with anemia. However, the compliance of pregnant women is much less because of its untoward effects like gastritis, constipation, itching redness. Cumulative effects of all these warrant the use of parenteral iron preparation. In this study rise in hemoglobin was found to be more in the iron sucrose group as compared to iron sorbitol acid therapy. There was no significant difference in efficacy of both groups in anemia therapy in pregnant women. However, giving iron sucrose in monthly divided dose decreases the economic burden to the patients and increases the compliance.

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