

Effectiveness of injection iron sucrose in increasing hemoglobin percentage

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Abstract

Objective: The purpose of the study is to investigate the pregnant patients with anemia (hemoglobin less than 10 gm per deciliter) for determining effectiveness of injection iron sucrose in increasing hemoglobin percentage. **Material and Methods:** Total 142 patients with hemoglobin concentration 10 gm/dl or less were included in study and investigated. Out of these 142 patients, 50 patients were in group I that is patients with hemoglobin percentage < 7 gm/dl and 92 patients were in group II that is patients with hemoglobin percentage 7 to <10 gm/dl. Fifty-six patients with hemoglobin concentration 10 gm/dl or more served as control group. Cases were studied as follows Out of 142 anemic patients, 53 patients received 2 doses of Injection iron sucrose 100 mg in 100 ml normal saline intravenously 48 hours apart and hemoglobin percentage and Packed Cell Volume (PCV) done after 7 days after 2nd dose. **Salient findings:** On an average there was 1.6 gm/dl rise in hemoglobin levels and 4.6 percentage rises in PCV were observed after 7 days. **Conclusions:** Intravenous iron sucrose was effective in increasing hemoglobin level.

Keywords: Anemia in Pregnancy, Iron sucrose.

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INTRODUCTION

Anemia in pregnancy is often asymptomatic. During antenatal visits of the patient, simple clinical examination and simple laboratory investigations like hemoglobin estimation can detect most of the anemic patients. Simple measures like oral iron supplementation can correct anemia in most of the patients. So the complications of anemia can be prevented in most of the patients. Pregnant women with hemoglobin less than 8 gm/dl show functional de-compensation and constitute a high-risk group. The first task is to ensure screening of all pregnant women to identify this high-risk group. A single hemoglobin estimation done around 20th week of pregnancy is sufficient to detect the high-risk anemic pregnant women. Unlike the situation elsewhere in the world, oral iron therapy is not effective in correction of

the moderate or severe anemia in Indian pregnant women, because of the poor bio-availability of iron in the Indian diet. Therefore pregnant women with hemoglobin between 5 to 8 gm/dl should be administered appropriate doses of parenteral iron and oral folic acid.

AIMS AND OBJECTIVES

To study the Effectiveness of injection iron sucrose in increasing hemoglobin percentage in patients with anemia in pregnancy.

MATERIALS AND METHODES

The present study was carried out in the Department of Obstetrics and Gynecology, Mahatma Gandhi Mission Medical College and Hospital, Aurangabad from June 2006 to November 2008. Total 142 patients with hemoglobin concentration 10 gm/dl or less were included in study and investigated. Out of these 142 patients, 50 patients were in group I that is patients with hemoglobin percentage < 7 gm/dl and 92 patients were in group II that is patients with hemoglobin percentage 7 to <10 gm/dl. Fifty-six patients with hemoglobin concentration 10 gm/dl or more served as control group.

Inclusion Criteria

All the pregnant patients with hemoglobin concentration less than 10 gm/dl, admitted in the hospital were included in the study group.

Exclusion Criteria

Acute cases of obstetric hemorrhage as in ante partum and postpartum (traumatic PPH) were excluded. Mild anemia patients who were on oral iron therapy were followed up on OPD basis were excluded. Depending upon the severity of anemia patients were admitted for blood transfusion or parenteral iron therapy. Cases were

studied as follows: Out of 142 anemic patients, 53 patients received 2 doses of Injection iron sucrose 100 mg in 100 ml normal saline intravenously 48 hours apart and hemoglobin percentage and packed cell volume estimation done after 7 days after 2nd dose.

OBSERVATIONS

Table 1: Effectiveness of Injection Iron Sucrose in increasing hemoglobin percentage

Number of patients received Injection Iron sucrose in Group I and Group II	Average rise in Hemoglobin percentage after 7 days of Injection Iron Sucrose	Average rise of Packed Cell Volume percentage after 7 days of Inj. Iron Sucrose
53	1.6 gm/dl	04.6 percent

In our study, effectiveness of injection iron sucrose in increasing hemoglobin percentage was noted. Out of 142 anemic patients, 53 patients received 2 doses of Injection iron sucrose 100 mg in 100 ml normal saline intravenously 48 hours apart and hemoglobin percentage and PCV done after 7 days after 2nd dose. On an average there was 1.6 gm/dl rise in hemoglobin levels and 4.6 percentage rises in Packed Cell Volume were observed after 7 days.

RESULTS

Intravenous iron sucrose was effective in increasing hemoglobin level by 1.6 gm/dl in 7 days (after 2nd dose).

DISCUSSION

In our study, effectiveness of injection iron sucrose in increasing hemoglobin percentage was noted. Out of 142 anemic patients, 53 patients received 2 doses of Injection iron sucrose 100 mg in 100 ml normal saline intravenously 48 hours apart and hemoglobin percentage and Packed Cell Volume done after 7 days after 2nd dose. On an average there was 1.6 gm/dl rise in hemoglobin levels and 4.6 percentage rises in Packed Cell Volume were observed after 7 days (Table-I). Z test applied to this table. Pretreatment hemoglobin was compared post treatment hemoglobin, Probability value less than 0.01, so rise of hemoglobin level after Injection Iron Sucrose was significant. Raja *et al* (2003)¹ found that mean hemoglobin rise after 5 weeks after injection iron sucrose was 3.5 gm/dl. However they have given iron sucrose in larger dose over longer period than our study. Our results were comparable with this study. Broche *et al* (2004)² the mean total dose of intravenous iron administered was 359 mg (range, 200 to 600 mg). The mean increase in Hemoglobin concentration over 7 days in patients who received iron sucrose was significantly higher average 1.86 gm/dl compared to those who received oral iron exclusively average 0.87 gm/dl. However they have given iron sucrose in larger dose than our study. Our results were comparable with this study. Breymann Christian

(2006)² Depending on the selected total dose, Hemoglobin increases between 2.1gm/dl and 3.5 gm/dl were observed after 14 days. Our results were comparable with this study. Bhandal *et al* (2007)³ found that mean hemoglobin rise after 5 days after injection iron sucrose was 2.5 gm/dl. However they have given iron sucrose in larger dose than our study. Our results were comparable with this study.

CONCLUSION

Intravenous iron sucrose was effective in increasing hemoglobin level.

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