



A CASE REPORT ON ANAPHYLACTIC SHOCK (INJ. IRON SUCROSE)

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ABSTRACT

A 21 years old female patient G₃P₂L₂ with 8MA with anaemia. In view of Anaemia (Hb:8g/dl) patient went to local hospital and Inj.Iron Sucrose was given. After 2 hours of Injection patient developed Angioedema, Headache, Vomiting and Giddiness. After basic supportive management she was sent to district hospital where supportive management was given. In view of worsening of blood pressure she was brought to hospital for further evaluation and management. Patient presented to Emergency Medicine department with complaints of facial (lip) swelling, neck swelling, shortness of breath-grade II-III NYHA and profuse sweating. Patient alleged to have developed hypersensitivity reaction to iron sucrose injection. In our patient, an adverse drug reaction occurring few hours after infusion of first dose of iron sucrose suggests hypersensitivity reaction rather than an immediate dose related toxicity. In our study, the patient was alleged to have developed hypersensitivity reaction with iron sucrose injection. All staff involved in giving iron infusions need regular training to ensure that when these rare events develop they are dealt with calmly and expeditiously.

INTRODUCTION

Anemia is the leading cause of disability worldwide [1], and many groups of patients need iron supplementation (e.g. patients in renal failure, those with inflammatory bowel disease, and pregnant women among others). Oral iron supplementation is often poorly tolerated due to gastrointestinal side effects [2, 3, 4]. Intravenous iron administration is an effective method of treating iron deficiency anemia, but there have been concerns about adverse side effects, particularly serious events such as anaphylactic reaction. Several different forms of intravenous iron are available, but few studies have attempted to compare the frequency of adverse events [5]. Anaphylaxis is a serious life threatening, and systemic allergic or hypersensitivity reaction with immediate onset [6]. The prevalence of anaphylaxis has been reported to be 0.05% to 2% [7]. Anaphylaxis is a relatively infrequent event during pregnancy but can result in adverse outcome for the mother and fetus [8, 9]. Anaphylaxis is a rare event occurring during pregnancy. It is characterized by generalized hypersensitivity reaction, which is life-threatening and typically results in maternal hypotension and/or fetal morbidity. Anaphylaxis is typically triggered by exposure to foods, insect venom, natural rubber latex, or medications through an

IgE-mediated mechanism [10].

Management of anaphylaxis in pregnancy is similar to that in nonpregnant women. The recommendations for management of acute anaphylactic episodes include immediate cessation of the triggering factors, airway and BP support, prevention of hypoxia with 100% oxygen, aggressive fluid resuscitation with normal saline and various medications, such as epinephrine, antihistamines, and corticosteroids [11]. We report here a anaphylactic reaction to iron sucrose in a pregnant woman with iron-deficiency anemia.

Case report:

A 21 years old female patient G₃P₂L₂ with 8MA with anaemia. In view of Anaemia (Hb:8g/dl) patient went to local hospital and Inj.Iron Sucrose was given. After 2 hours of Injection patient developed Angioedema, Headache, Vomiting and Giddiness. After basic supportive management she was sent to district hospital where supportive management was given. In view of worsening of blood pressure she was brought to HOSPITAL for further evaluation and management. Patient presented to Emergency Medicine department with complaints of facial (lip) swelling, neck swelling, shortness of breath-grade II-III NYHA and profuse sweating. Patient alleged to have developed

hypersensitivity reaction to iron sucrose injection.

On general examination her BP was found to be decreased i.e. 90/50 mm of hg and pulse rate was 110 beats per minute. Laboratory Examinations revealed decreased levels of Hb, RBC, PCV, MCV, MCH, Lymphocytes and Serum.potassium. Her WBC, ESR and

Neutrophil count were found to be increased. Urine routine microscopy revealed the presence of pus cells, epithelial cells and red blood cells. Patient was diagnosed with **Iron Sucrose (Inj.) induced Anaphylactic Shock.**
U/S abdomen whole: ANTENATAL SCAN: Single liva uterine foetus

PARAMETERS (DECREASED)	OBSERVED VALUE
HB	9.2g/dl
RBC	4.04 million cells/cumm,
PCV	32.6%
MCV	81fl
MCH	23 pg
LYMPHOCYTES	2%
SERUM.POTASSIUM	3.1 mmol/l.
PARAMETERS (INCREASED)	OBSERVED VALUE
WBC	17,300 cells/cumm
ESR	58 mm/1 st hour
NEUTROPHILS	94%

Management of ADR:

On 1st day patient complaints of facial (lip) swelling, neck swelling, shortness of breath GRADE II-III NYHA and profuse sweating. Patient alleged to have developed hypersensitivity reaction to iron sucrose injection. Her pulse rate and blood pressure was found to be 140 b/m and 80/40 mm hg for which she was treated with the following medication. Inj. HYDROCORTISONE-100mg-IV-STAT, Inj. AVIL-25mg-IV-STAT, Inj. EMESET-4mg-IV-STAT, Inj. PANTOP-40mg-IV-STAT.

On second day patient complaints of

Angioedema, headache, vomiting, breathlessness, palpitations and giddiness. Her blood pressure was 83/36 mmhg and pulse rate was 118 b/m. she was treated with the following medication Inj. ADRENALINE-3amp+ 50CC NS @on flow 5 cc/hr, IV Fluids 1 bottle RL, DNS @ 100 ml/hr, Inj. HYDROCORTISONE-200mg-IV-QID and then tapered to 100 mg. Inj. AVIL-2CC-IV-SOS, Inj. RANTAC-IV-BD, Inj. DECADRON-2CC-IV-SOS, Inj. AUGMENTIN-1.2gm-IV-BD,

Inj.EMESET-4mg-IV-SOS,

Tab.LEVOCETIRIZINE-10mg-BD.

On third day no fresh complaints. Her blood pressure, pulse rate and respiratory rate was found to be 90/40 mmhg, 120 b/m, 42 c/m.

She was treated with the medications Inj.ADRENALINE-3amp+50CCNS@5CC/h

r, Inj.HYDROCORTISONE-100mg-IV-QID,

Tab.LEVOCETIRIZINE-10mg-BD,

Inj.EMESET-4mg-IV-SOS, IVFLUIDS-2 bottles DNS, 1 bottle RL@75CC/hr,

Inj.AUGMENTIN-1.25gm-IV-BD,

Inj.RANTAC-150mg-IV-BD,

Inj.AVIL-2CC-IV-SOS,

Inj.DECADRON-2CC-IV-SOS for tachycardia, tachypnea and hypotension.

On fourth day patient had pallor. Her blood pressure and pulse rate were 110/50 mmhg and 125 bpm. Inj.Adrenaline was stopped and Inj.NOR ADRENALINE-2amp+50 ml NS@5ml/hr was started.

On fifth day patient had no fresh complaints. Her pulse rate, blood pressure and respiratory rate were 104 bpm, 100/50 mmhg and 30 cpm.

On sixth day patient had no fresh complaints. Syrup.HAEMOP-15ml-OD was added.

Patient was treated conservatively, improved symptomatically. Patient had no signs present symptoms of anaphylaxis present now patient discharged in a haemodynamically stable

state with the following medical advice SYP.HAEMOP-15ml-OD.

DISCUSSION

Anemia in pregnant women is estimated to be between 39.9 to 43.8% globally and 43.9 to 52.5% in South-East Asia. It is generally estimated that half of the anemia cases in pregnancy are related to iron deficiency. The prevalence of iron-deficiency anemia in pregnant women is estimated to be between 35 and 75% in developing countries whereas in industrialized countries, the average prevalence is 18% [12], [13]. Parenteral iron therapy in iron-deficiency anemia is recommended in patients where oral iron therapy is ineffective due to mal-absorption states and noncompliance [14]. Compared to oral iron therapy, intravenous iron results in much more rapid resolution of iron-deficiency anemia with minimal adverse reactions [15]. All available iron preparations for parenteral use can cause short-term side-effects, such as metallic taste, back pain, nausea, vomiting, diarrhea, abdominal pain, hypotension and allergic or even anaphylactic reactions [16]. Symptoms of anaphylaxis include dyspnea, chest pain, angioedema, urticaria with hypotension, and are generally immediate, sudden, and severe, typically occurring in conjunction with the first dose of parenteral iron [17].

In our patient, an adverse drug reaction occurring few hours after infusion of first dose of iron sucrose suggests hypersensitivity reaction rather than an immediate dose related toxicity. In our study, the patient was alleged to have developed hypersensitivity reaction with iron sucrose injection.

CONCLUSION

The present study concluded that Hypersensitivity reactions to IV iron are rare but potentially life-threatening. They are at least partly preventable by implementation of risk minimization measures. Their management requires prompt recognition and grading of severity, together with meticulous monitoring and immediate treatment. All staff involved in giving iron infusions need regular training to ensure that when these rare events develop they are dealt with calmly and expeditiously. In the present case Maternal and fetal outcomes were good after prompt treatment for anaphylaxis.

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