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# Maternal and Perinatal Outcome, a Case Report of Disseminated Intravascular Coagulation Following Snakebite after Treatment with Polyvalent Anti-snake Bites

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## ABSTRACT

Snakebite is not common during pregnancy, but the obstetric consequences are severe and associated with the severity of envenomation. Early stages of pregnancy and treatment delay are risk factors for the poor prognosis. A 20-year-old pregnant woman in 16 weeks of the first pregnancy referred to Zabol Amir Hospital on August 13, 2015, with the history of snakebite on the right foot. Intravenous fluid, 2 units of packed cells and 4 units of fresh frozen plasma (FFP) were administered, however, the coagulopathy and hematuria remained. Polyvalent anti-snakebite serum was injected. At first, 3 vials (30 mg) were injected and due to lack of improvement, four extra doses (40 mg) of polyvalent anti-snakebite serum were administered; then, at the 5th day she was discharged with a good general condition. The follow up was performed on a regular basis including periodic examination, PT and PTT check. Snakebite during pregnancy can lead to a dangerous condition for the mother and fetus. However, early treatment with polyvalent anti-snake serum and appropriate management improved the outcome of snakebite in pregnancy.

**Key words:** Snake bite, Maternal, Perinatal, Polyvalent.

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## 1. INTRODUCTION

Snakebite affects about 2.5 million per annum, with more than 100,000 deaths (1). Snakebite is not common in pregnancy and can be so dangerous for mother and fetus (2). Worldwide incidence of snakebite in pregnancy is unusual, but its obstetric consequences are severe and associated with severity of envenomation (3). Early stages of pregnancy and treatment delay are of the main risk factors for poor prognosis of pregnancy (4). Anti-venom that may be used to treat snake bites can cause anaphylactic reactions, which may have adverse effects on the mother and fetus (5). The fetal death rate in mothers who have received anti-venom is 58 - 55 percent (2). Only

a few cases have been reported about snakebite in pregnancy in literature and the outcomes may be dissimilar to the mother and the fetus. Here, we report a 16w pregnant woman with disseminated intravascular coagulation (DIC) due to snakebites and good prognosis of mother and fetus after injection of polyvalent anti-snakebite serum.

## 2. CASE PRESENTATION

A 20-year-old pregnant woman in 16 weeks of the first pregnancy referred to Zabol Amir Hospital on August 13, 2015. She had a history of snakebite on the lateral side of her right foot (Figure 1).



Figure 1. Snakebite on the right foot of patient

She reported symptoms of nausea, frequent vomiting, hematuria, lower abdominal pain and spotting. The type of the snake had not been determined. The patient was referred to intensive care unit for better management. Blood pressure and heart rate were 80/60 and 110/min respectively. In physical examination, she was alert, pale, without subconjunctival hemorrhage. Swelling in the legs and a 2 × 1 cm abdominal cellulitis was observed. Abdominal examination of the uterus exhibited 18-16 weeks pregnancy with an obvious heart rate contraction during auscultation. Ultrasonic investigation showed a 16 weeks pregnancy but the alive fetus was not seen inside the bladder clot. The first Laboratory findings were as follow:

Hemoglobin (HB): 7.4  
 Prothrombin time (PT): 16  
 International normalized ratio (INR): 1.1  
 Partial thromboplastin time (PTT): 70

Based on clinical and laboratory findings, a critical situation, intravenous fluid, 2 units of packed cells and 4 units of FFP were administered. However, the coagulopathy and hematuria remained. Therefore, polyvalent anti-snakebite serum was injected after sensitivity testing. It was diluted in  $\frac{12}{32}$  serum. At first, 3 vials were injected. Complete blood tests were checked two times a day. Because of the lack of improvement in the patient's clinical status, 4 extra doses of polyvalent anti-snakebite serum were also administered. The laboratory results on the third day of hospitalization in ICU were:

Hemoglobin (HB): 11.5  
 Prothrombin time (PT): 13  
 Partial thromboplastin time (PTT): 40

On the 4th day, she was transferred to the obstetric unit, and after 5 days she was discharged by a good general condition. Following up of the patient was done on a regular basis. Maternity of the patient was performed in 39 weeks and 3 days, and a son was born weighing 3300 g with an Apgar score of 10-9. The baby did not have any medical problem and now the baby is 7 months old.

### 3. DISCUSSION

An experience of snakebite was reported in the first trimester of a pregnancy (4). Similarly, our case occurred in 16w of pregnancy. Systemic symptoms following snakebite have been reported such as DIC, acute renal failure, shock and death (6). The current case was experienced hematuria and shock. These patients should receive anti-venom because it does not neutralize toxin treatment (7). The most common complications of pregnancy due to snakebite are spotting and premature labor and threatened abortion (8). However, anti-snake serum may cause maternal morbidity. According to the results of a study with 39 pregnant patients experienced snake bites, all cases showed good responses to treatment. Treatment that was similar to those achieved in our case following anti-snake polyvalent therapy. Preventive strategy for the snake biting includes keeping away from snakes and walking in light places and finally wearing appropriate cloths and footwear (9).

### 4. CONCLUSION

Snakebite during pregnancy causes dangerous conditions for the mother and fetus and can be controlled by early treatment with polyvalent anti-snake serum as well as suitable management.

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### AUTHORS CONTRIBUTION

KRK, and LRK wrote the manuscript and performed the follow-ups. KRK helped interpreting the data. All authors read and approved the final manuscript.

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