

Placental Abruption Following Snakebites Envenomation: A Case Report and Literature Review

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Abstract

Background: Snakebite envenomation in pregnancy is uncommon. It can lead to a poor outcome in both the mother and the fetus. We describe our approach to envenomation in pregnancy based on the currently available evidence. **Case:** We reported two case of snakebite in the third trimester of pregnancy having caused placental abruption with expelling a fresh still born baby and a live baby. In both cases, consumption coagulopathy occurred. managed by polyvalent anti-snake and blood transfusion. Their investigations became normal and they were discharged of hospitalization. **Conclusion:** Snakebite envenomation in pregnant is a maternal and fetal emergency. Treatment must be quick and well adapted.

Keywords

Snake Bite, Dic, Pregnancy, Abruption Placenta, Intra-Uterine Demise

1. Introduction

Snakebite is a major public health in developing countries. Estimates of snakebites envenomation range from 420,000 to 1,841,000 resulting in 20,000 to 150,000 deaths annually [1] [2]. Elapidae and viperidae are the most venomous species found in the Sub-Sahara. The constituents of the venom can lead to consumption coagulopathy [3]. In pregnant, the incidence is 0.4% to 1.8% of

snake bite cases [4], and can lead to maternal death of 4.2% and fetal death rate in the range of 43% - 58% [5]. Other complications such as teratogenesis, spontaneous miscarriage, abruptio placenta, preterm labour have been described [5]. In semi-urban areas such as Kara in northern Togo, the population is often confronted with snake bites. Here, we describe two cases of placental abruption following snakebites with different outcome of the pregnancy and will review the medical and obstetric management of snake envenomation in pregnancy [6].

2. Observation 1

A 30-year-old, Gravida 5 Para 4 at 32 weeks was referred to our tertiary care center for vaginal bleeding with three days history of snake bite on the left foot. She was conscious, but in hemodynamic shock with tachycardia, low blood pressure, cool and clammy extremities. Her uterus was tense and tender with vaginal bleeding. She was resuscitated with intravenous infusion with 1000 ml of saline and emergency examinations noted an intrauterine fetal demise and placental abruption confirmed by scan. The hemoglobin was 3.5 g/dl, a low platelet count $90 \times 10^9/L$, fibrinogen levels 1.35 g/l and Prothrombin time 45%. Infusion of 1000 mL of saline and 500 mL of gelatine, 10 mg of vitamin K and 1 gr intravenous tracenamic acid were administered. One dose of anti-venom was given. Four packed RBCs along with two fresh frozen plasmas were transfused. She expelled a fetus of 1800 g with clots. She was also given antibiotics for infection prevent. She was discharged on the 10th day.

3. Observation 2

A 40-year-old, Gravida 8 Para 7 at 34 weeks was admitted to our tertiary care center for bleeding gums 48 hours following a snakebite. She was hemodynamically stable and perceived adequate foetal movements. There was no vaginal bleeding and the uterine was normal. The foot is swollen and painful. Laboratory tests showed hemoglobin was 7.8 g/dl, a low platelet count $105 \times 10^9/L$, and Prothrombin time 61%. She was treated with two anti-snake dose, Amoxicilin and clavulanic acid. She had also received 10 mg of intravenous vitamin K and 1 gr intravenous tracenamic acid. Twenty-four hours later after having received medication, she suddenly developed abdomen pain and massive vaginal bleeding. She was resuscitated with intravenous infusion with 1000 ml of saline and two RBCs and two fresh frozen plasmas. Placental abruption where confirmed by scan. Therefore, she was immediately admitted at operative room and delivered a live baby cesarean section. There was a large blood clot at the delivery (Figure 1). In the postoperative period occurred a postpartum hemorrhage by consumption coagulopathy. Tsirulnikov vascular ligation successfully performed. She was discharged on the 7th day.

4. Discussion

Snake bite is uncommon in pregnancy and associated with fetal and maternal

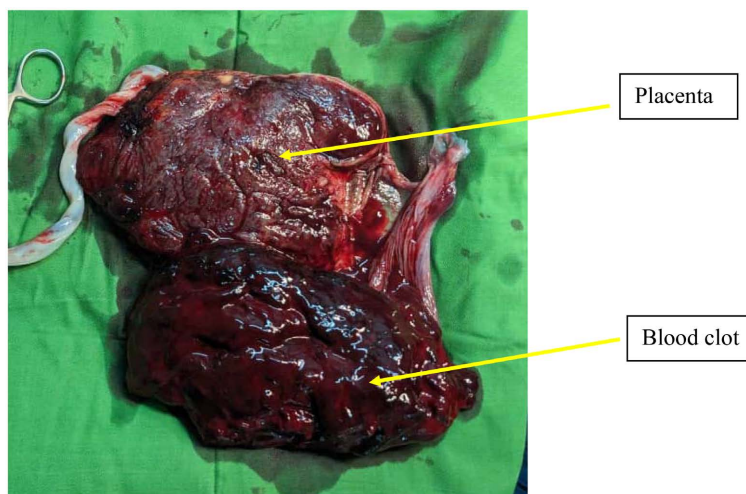


Figure 1. Placenta with large blood clot.

complications depending on the degree of envenomation [3]. Among other factors that contribute to the severity of the clinical manifestation differs according to species of snake. Hence severity to poisoning following snakebite varies. Main venomous snakes are Hydrophidae, Elapidae, and Viperidae, and differ in appearance, geographic distribution, and venom profiles [7]. Both Elapidae and Viperidae can deplete clotting factors and cause subsequent consumptive coagulopathy and damage the endothelial lining causing local and systemic hemorrhage [3]. Pathophysiology of the effect of venom during pregnancy is not clearly demonstrated. The venom is believed to have the capacity to cross the placenta and affect the fetus. Foci of necrosis and vascular congestion have been described [8]. Other maternal complications can lead to fetal death or abortion. These include maternal shock, placental abruption, venom-induced preterm delivery, haemodynamic shock, maternal anaphylaxis to antivenom. But the most reason remain placental abruption [9] [10]. This occurs when the toxin reaches the deciduo-placental cleavage zone, and starts a dissociation [11]. Foetal loss resulted also from delayed presentation such as reported in the first case. Some malformations have been described like hydrocephalus and polydactyly after snake bite at the first trimester or lead to cleft palate, facial deformities, hepatic and myocardial damage, embryonic deaths [9].

Venomous snakebite in pregnancy also brings to a higher maternal mortality and morbidity with late presentation especially in low resource setting. It can lead to an excessive bleeding, and therefore postpartum hemorrhage. Some acute renal injury, managed with dialysis after received many antivenom following snake bite is describe [12]. In our case as the report by Martinez and all, we had no cases of maternal death [13]. But excessive delivery bleeding in both cases. To prevent consumption coagulopathy, some authors suggested transfusion of RBCs and fresh frozen plasma, cryoprecipitate, fibrinogen concentrate and factor XIII concentrate [14] [15].

The antivenom remains the real treatment and as reported by Hbib A.G. *et al.*,

the primary objective is to save the life of the mother [16]. Ideally, antivenom should be administered within 6 hours of the bite. If not, it can be given within 24 hours [7] [13]. If anaphylactic shock occur, steroids, antihistamines, and epinephrines should be administered and properly oxygenated

5. Conclusion

Snakebite in pregnancy is serious incident with potentially high morbidity and mortality for the fetus and mother. Placental abruption is the main complication in our regions after snakebite envenomation. Adequate management with antivenom and blood transfusion is essential to preserve the vital prognosis of the mother and fetus.

Informed Consent

Consent was taken for the procedure and publication.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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