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Case Report

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PREGNANCY COMPLICATED BY SNAKE BITE: A CASE REPORT

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ABSTRACT

Snake bite though rare among pregnant women; however, have serious consequences both for the mother and fetus. Little is known about the maternal and fetal outcome following snake bite of a pregnant woman. This case report presents a primigravida who was bitten by a snake at 22 weeks of pregnancy. She developed symptoms of coagulopathy but managed conservatively and discharged in satisfactory condition. The purpose of this case report is to emphasis that though the consequences of a snake bite is grave for the fetus and mother, timely and effective medical management can go a long way in saving their lives.

KEYWORDS: Snake bite, pregnancy, coagulopathy.

INTRODUCTION

Though the occurrence of snake bite in pregnancy is rare, however, the obstetric outcome is severe and related to severity of envenomation. Snakes may be poisonous or non-poisonous. Only about 15% of snake species worldwide are poisonous. Most snake bites are harmless and are delivered by non-poisonous snakes. Only few such cases have been reported in literature so far and the outcome varies both for the mother and the fetus. The mother and the fetus need close surveillance and effective treatment. Here we report a case of 22 weeks pregnancy with viper snake bite, the complications were managed conservatively.

CASE REPORT

A 24 year old, primi gravida at 22 weeks period of gestation presented with history of viper snake bite over 2nd toe of right foot. She was admitted in the hospital ten hours later. She had history of vomiting one episode mixed with blood following snake bite. She had headache also. She perceived fetal movement adequately. No history of pain abdomen or vaginal bleeding. On admission, she was conscious and oriented. Her vitals were stable. There was induration and erythema with fang marks on the right foot. There was right foot pedal edema upto ankle. Systemic examination was normal. On abdominal examination, her uterus was noted to be 24 weeks with no contractions and a regular fetal heart rate on hand doppler. All required blood investigations were done. Her coagulation profile was deranged and blood was not coagulable. 100ml of polyvalent ASV started immediately in 500ml normal saline after test dose. Clotting time repeated again and still it was uncoagulable. Additional 200ml ASV given slowly diluted in normal saline. Repeat clotting time was normal. USG for fetal well being showed single live intrauterine fetus of 22 weeks gestation without any evidence of abruption. Her vitals and fetal heart rate were monitored regularly. She was found to have mild anemia with normal platelets. She was discharged after 3 days of hospital stay.

DISCUSSION

The mortality rate due to venoumous snake bite has decreased significantly from 25% in the past to 0.5% nowadays due to the availability of antivenom and advances in emergency and critical care.[1] The morbidity and mortality due to snake bite depends on certain factors like the species and size of the snake, the age and size of the victim, the time elapsed since the bite and characteristics of the bite location, depth, and number.

Snake venom is a highly concentrated digestive juice of the snake. It is toxic due to proteolytic enzymes, phosphotidases and neurotoxins. The venom coagulates fibrinogen and prothrombin and releases histamines which leads to dissolution of blood vessels and release of erythrocytes and serum in the tissues.

Snake venom is a complex enzyme mixture that can lead to hematological and neuromuscular dysfunction. This ultimately leads to failure of various systems. Hematological symptoms due to some snake species are mainly due to alteration in the vascular permeability, systemic vascular damage, local tissue injury and fibrinolysis, and the enzyme phosphotidase is responsible for the same. There are other species which produce venom with enzymes that block neuromuscular

transmission and cause ptosis, respiratory paralysis and other neurological manifestation. The snake bite with haematological dysfunction causes hemolysis and coagulopathy which led to abruption and fetal loss. The mother may even require blood products to stabilize her condition.

The cardinal signs of the snake bite are the fang marks over the bitten area associated with localized pain, erythema and progressive edema.[2] Symptoms and signs are nausea, vomiting, hematemesis, hematuria, thrombocytopenia, oral numbness or tingling of tongue and mouth and fasciculations. The local swelling may become apparent within a few minutes to several hours and can even progress to involve a whole limb. Edema near an airway or involving respiratory muscular block may lead to death.

There is increased rate of abortions and intrauterine fetal demise following snakebite due to fetal anoxia and acute fetal anemia due to intraplacental hemorrhages causing abruptio placenta which may lead to premature uterine contractions.[3]– [5] Seneviratne et al. reported that nearly 30% of the envenomated pregnant mothers had a spontaneous abortion.[6] Malz et al. has also shown in his study that three of 14(21%) snakebites resulted in abortion or infant death.[7] Dunnihoo et al. noted that of 30 reports with some detailed information available, six spontaneous abortions, seven fetal deaths, and one elective abortion occurred, a 43% fetal loss occurrence (excluding the elective abortion).[8] Dao et al. also observed that four snakebites in pregnant women leading to fetal death or abortion in three of them.[9]

Certain malformations have also been noted after a snake bite. For example, a woman who was bitten by a Russell's viper in her 16th week of pregnancy delivered a baby with hydrocephalus and polydactyl.[10] Malz reported a woman bitten by a viper in her 12th week who later delivered a baby with multiple anomalies with hydrocephalus.[11] Though the exact mechanism is not known but it can be due to embryo toxic and teratogenic effects of snake venom.

The time taken to diagnose, treat the patient and the probable risk secondary to antiserum-related complications has a more significant impact on the outcome as compared to the species of the snake.[12]

In India, polyvalent antisnake venom is available as a 10ml vial with lyophilized powder for reconstitution. One ml of this antiserum can neutralize a certain amount of venom namely 0.6mg of Cobra venom, 0.6mg of Russell's viper, 0.45mg of Common Krait and 0.45mg of Saw-scaled viper. The dose is titrated according the clinical and laboratory findings.[13]-[15]

Antivenoms can cause anaphylactic reactions that may have an adverse effect on the mother or fetus. The fetal death rate has been reported to be up to 55% to 58% in mothers given antivenom.[16] The safety of antivenom in pregnancy is unclear. If the mother develops an acute anaphylactic reaction to the antivenom, ephedrine or phenylephrine may be given. These drugs are preferred over epinephrine as the latter may adversely affect placental blood flow.[17] Unless there is awareness among obstetricians, timely and effective management in these cases may be difficult.

CONCLUSION

Snake bite in pregnancy needs awareness as it is a very rare and challenging case to manage. The lives of both the mother and fetus are in danger. Prompt treatment with antivenom and blood products is vital in saving the mother. The more recent literature seems to show an improvement in both fetal and maternal outcome (20% and 4-5%) because of ASV. Timely delivery of the fetus needs to be considered as well. Risk of malformation should also be explained to the mother. Envenomations during pregnancy should be reported so that these human research and animal studies can be helpful to evaluate the effect of snake antivenom on pregnant mothers, embryos, and fetuses.

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