

RENAL FAILURE AND NEONATAL DEATH FOLLOWING SNAKEBITE DURING PREGNANCY. A CASE REPORT

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ABSTRACT: A thirty-five-year-old Sudanese woman (gravida 4, para 3), at 34 weeks gestational age, presented with snakebite in her right leg. Examination of the cardiovascular, respiratory, gastrointestinal, and central nervous systems revealed no abnormalities. Her blood urea was 58 mg/dl; creatinine, 2.6 mg/dl; whole blood clotting time, 5:35 minutes. The patient was diagnosed as having acute renal failure and was then managed conservatively. She received polyvalent antivenom serum intravenously. On the next day, she delivered prematurely and the baby passed away due to respiratory distress. There was no postpartum bleeding and the patient's clotting time was 5:30 minutes. She was discharged from the hospital after 7 days when her clinical, biochemical and hematological parameters returned to normal values without dialysis.

KEY WORDS: snake, renal, pregnancy, perinatal, Sudan.

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INTRODUCTION

Approximately 125,000 deaths due to snakebites are reported every year (3). Bites by venomous snakes during pregnancy result in high fetal wastage and may cause maternal mortality, which makes such accidents an important, albeit uncommon, reality in obstetrics (4, 9, 11). Thus, it is essential that all emergency physicians become familiar with the symptoms and treatment of venomous snakebites.

CASE REPORT

A thirty-five-year-old Sudanese woman (gravida 4, para 3) at her thirty-fourth week of pregnancy was referred from a health center to Algardarif Hospital, Eastern Sudan, with a history of snakebite in her right leg for 6 days. She was not complaining of abdominal pain, vaginal bleeding or hematuria.

Clinical examinations on presentation revealed a pulse rate of 85 beats/minute and a blood pressure of 120/80 mmHg. Her temperature was 37.8°C and respiratory rate was 25/minute. Examination of the cardiovascular, respiratory, gastrointestinal, and central nervous systems presented no abnormalities. Clinical obstetrical examination showed a fundal level of 34 weeks (which corresponded to her dates), longitudinal lie, cephalic presentation, and fetal heart rate of 145 beats/minute. These findings were confirmed by ultrasound, which also revealed no abnormalities in the liver and the kidneys. Lower limbs examination showed mild swelling below the knee of the right leg with intact peripheral pulsation. Her hemoglobin was 9.5 g/dl. Urine examination did not show hematuria. Blood urea was 58 mg/dl and creatinine, 2.6 mg/dl. The serum potassium was 4.1 mmol/l; sodium, 128 mmol/l; and calcium, 8 mg/dl. Whole blood clotting time was 5:35 minutes.

The patient was diagnosed as having acute renal failure and conservative management was initiated (observation and hydration). She received polyvalent antivenom serum intravenously.

On the next day, her general condition was good. Her urine output was 250 ml; urea, 113 mg/dl; creatinine, 8.4 mg/dl; sodium, 126 mmol/l; and potassium, 4.7 mmol/l. The patient complained of abdominal pain. She had normal pulse, blood pressure and respiratory rate. Vaginal examinations showed 6cm dilated cervix with intact membranes and the fetal heart rate was 150 beats/minute. Five hours later, a male baby of 2.4kg birth weight was delivered. After initial resuscitations, he was admitted to the intensive care unit due to his poor Apgar scores (4 at 1 and 5 minutes). The

baby passed away 30 minutes later due to respiratory distress. There was no postpartum bleeding and the woman's clotting time was 5:30 minutes.

The patient was kept in the hospital for 7 days when her clinical, biochemical and hematological parameters returned to normal values without dialysis.

DISCUSSION

The patient presented with renal failure following snakebite and before receiving antivenom. High incidence (29%) of acute renal failure has been reported after snakebite, even in specialized centers and when prophylactic measures had been taken (10). Snakebite may lead to renal failure with significant changes of the cortical and glomerular apparatus (2). Our patient received antivenom 6 days after the accident. Previous studies had suggested an association between the snakebite time interval and renal failure (10). Thus, antivenom should be available in health centers and peripheral communities rather than concentrated in referral hospitals.

The patient recovered from renal failure without dialysis. In a large series, 10% mortality rate was reported due to renal failure after snakebite (10). The patients delivered prematurely and the babies died few hours later. Snake venom has been reported as a cause of premature labor by inducing uterine contractions (8). The stimulant action of the venom increases the frequency and amplitude of uterine contractions (7). Serious morbidity, abruptio placenta, and fetal wastage following snakebite have been previously reported in Eastern Sudan (1). There are several mechanisms which lead to fetal wastage after snakebite during pregnancy; they include direct effect of the venom on the fetus, fetal hypoxia due to maternal hypotension, venom-induced uterine contraction, pyrexia and cytokine release following tissue damage (4).

The patient received polyvalent antivenom serum by intravenous infusion, which is the mainstay of treatment for venomous bites to neutralize the venom effects. Techniques such as the use of tourniquets, incision and suction should no longer be practiced (5). The use of antivenom serum during pregnancy should balance its risk-benefit and may be lifesaving. However, anaphylaxis that may follow its administration as well as its treatment with adrenaline may jeopardize the placental circulation (4, 6).

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