

# VENOMOUS SNAKEBITE IN PREGNANCY AND GOOD OUTCOME –A CASE REPORT

MOHAMMAD ALI<sup>1</sup>, MD ROBED AMIN<sup>2</sup>,MOHAMMAD BELALUL ISLAM<sup>3</sup>,MOHAMMAD HARESUR RAHMAN<sup>3</sup>, MD.MAHBUBUL ISLAM MOJUMDAR<sup>4</sup>

## Abstract:

Worldwide occurrence of snakebite in pregnancy is little known in medical literature. Furthermore to the best of our knowledge there is no case report on Krait envenomation in pregnancy in Bangladesh. It carries significant fetal wastage and maternal morbidity and mortality. Here we report a multigravida aged 27 years at her 24 weeks of gestation with krait bite with neuromyopathy with good obstetrical outcome.

**Key words** :Snakebite, Pregnancy, Envenomation.

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## Introduction:

Snakebite is a potentially a life threatening medical emergency. Snake bite in pregnancy is rare<sup>1</sup> and medical literatures on this issue are limited and not widely available. . Studies from Africa, India and SriLanka revealed pregnant women are accounted for.4% to 1.8% of hospitalized snakebite victims<sup>2</sup>. Snakebite carries significant fetal wastage (43%) and maternal mortality(10%)<sup>3</sup>.

Snake bites are uncommon in second and third trimesters of pregnancy as they are commonly house bound.<sup>4</sup> Venomous snakes that are commonly encountered in Bangladesh are: Krait (Bangarus), Cobra(naja) and green pit viper(Trimeresurus). Envenomation by kraits and cobras usually presents with neurotoxicity. we report a case of snake bite of 27 years old lady in second trimester of pregnancy who showed neuromyopathy following krait bite and was successfully treated and having a good obstetrical outcome.

## Case report:

A 27 year old multigravida (gravida 4 para 3) at her 24 weeks of her gestation presented twenty four hours following snakebite on her left foot. Patient lives in a rural area in tin shed house. It was late evening when going for water from nearby tube well on barefoot she got bitten by snake. She became frightened started screaming. Neighbors killed snake at the spot. Following bite she noticed pain and tingling sensation in the bitten area and oozing of few drops of blood..Traditional healer (Ozha) called in and he treated the patient by giving two tight tourniquet on her leg, multiple incisions around the

bitten area and applying herbal product over the wound..He kept the patient in the house about 12 hours. Following four hour after snake bite patient started noticing heaviness of both eyelids, blurring vision, weakness of both lower limbs and after seven and ten hour she had had difficulty in swallowing and nasal voice respectively. She had also altered taste sensation which she noticed while taking pepper and oil as a snake bite medicine.. She had no local swelling or blister in the bitten area

The snake was brought in dead and identified. It was diagnosed as common krait by expert taxonomist (*Bangarus caeruleus*)and was 2.5 feet long. It's sex had not been identified identified (Fig 1)



**Fig1:** The offending snake (*Bangarus caeruleus*) (copyright M Ali)

1. Senior Consultant of Medicine, Comilla Medical College
2. Associate Professor of Medicine, Dhaka Medical College
3. Assistant Professor of Medicine, Comilla Medical College
5. Professor of Medicine, Comilla Medical College

**Address of Correspondence:** Dr Mohamamd Ali, Senior Consultant of Medicine, Comilla Medical College. E mail-mltn7@yahoo.com

Patient was conscious and oriented on admission. Her vital signs were: blood pressure 130/70, pulse 96/minute (regular), respiration 20/minute, temperature 98.4 F. There was single fang mark on her left foot and multiple incisional marks. She had bilateral ptosis with complete external ophthalmoplegia and normal gag reflex and jaw jerk (Fig 2). There was also proximal muscle weakness (grade 4 on MRC scale) in her both lower limbs with normal strength upper limb muscle. All the deep tendon jerks coordination and all modalities of sensation were found to be normal in both the upper and lower limb. Planter reflexes went down going. Per abdominal examination revealed 24 weeks uterus size. Fetal heart sounds were normal.



**Fig.-2:** Bilateral incomplete Ptosis (Copyright M Ali)

On investigations: Complete hemogram revealed normal findings. Bleeding time clotting time were normal. 20min WBCT was normal as were liver and renal function test. Obstetric and gynaecological consultation on pregnancy and fetal health were obtained. Obstetric ultrasonographic findings were normal.

She was administered 100ml lyophilized polyvalent anti snake venom (ASV) (10 vials ASV each of which was diluted with 10 ml distilled water and mixed with 100 ml of 5% dextrose in aqua saline given

intravenously in four hours) along with intravenous atropine (.6mg at dose of 15 microgram/kg four hourly) followed by Subcutaneous neostigmine (50 microgram/kg four hourly) until neuro toxic features got improved. Before ASV administration subcutaneous adrenaline was also given as a prophylaxis for anaphylaxis. No untoward events were observed. Patient recovered completely. Although recovery was delayed, patient was discharged after eight days of hospitalization with follow up advice. On one follow up visits no untoward consequences in patient and fetal health were observed. Three months later she gave birth to a healthy baby boy through normal vaginal delivery at home with the help of female birth attendant. He is now three month old and is doing well.

#### **Discussion:**

About 82 species of snakes are found in Bangladesh. Of these only 28 species are venomous<sup>5</sup> Among these venomous snakes krait, cobra are commonly known to be dangerous to man. There are 700000 snakes bites/year in Bangladesh with 6000 case fatalities<sup>6</sup>. Fatalities are more common in developing countries where human populations are dense, venomous snakes are plentiful, rapid access to intensive care is lacking and believes in traditional healers are prevailing.

Reports on Snake bite during pregnancy is rare in medical literature specially in Bangladesh. A review by Langely showed only 213 reported cases from 1966 to 2009<sup>1</sup>. It has significant prognostic implications on mother as well as on fetus. A literature review found over all fetal deaths ranging from 38% to 43%<sup>3,7</sup> with maternal deaths of 10% after snake envenomation. Another recent review has shown overall fetal loss around 10% and maternal mortality is about 4% to 5%<sup>1</sup>. A number of mechanism have been proposed to explain fetal death, abortion after snake bite including premature uterine contraction, direct venom toxicity abruption placenta, fetal anoxia, supine hypotension syndrome and maternal anaphylaxis.

Kraits are common in Bangladesh as well as Nepal, India, Pakistan and Srilanka. Currently, 12 species of kraits are recognized in the world<sup>8</sup>. In Bangladesh 6 species are identified<sup>8</sup>. In most of the cases snake cannot be identified by direct inspection. Therefore, a syndromic approach by WHO guideline for management of snake bite in Southeast Asia is followed<sup>8</sup>.

Krait bites occur at night when snake comes home

in search of its prey and someone sleeping on the floor roll on to it in their sleep. Envenomation with krait is usually presented with neurotoxic features like ptosis, ophthalmoplegia, nasal voice, nasal regurgitation, neck muscle weakness and respiratory muscle paralysis. Patient may present with abdominal pain and that may mimic surgical abdomen<sup>9</sup>.

Anti snake venom(ASV) remains the cornerstone of the management of snakebite. We used 100ml of polyvalent anti snake venom in our patient as she had systemic features of envenomation and no untoward events were seen. Snake venom may cross the placenta even before mother produces features of envenomation. Therefore it was recommended to give antivenom if fetal movement is slowing down even before mother has no systemic features of envenoming<sup>10</sup>. Adverse effects following administration of ASV are not uncommon. The effect of antivenom on fetus is not clear. In recent literature review showed among 96 mothers who had received ASV, 26 fetal deaths(30%) occurred and only 2 mother died(2.1%)<sup>1</sup>. Senevirante et al reported 64.7% adverse fetal outcome in term of abortion and malformation in 17 patients treated with anti venom<sup>2</sup>. In one study fetal death was reported to be 30% who received antivenom versus 11.3% who did not<sup>1</sup>. This may be due to more significant envenomation. Mother as well as fetus may have been more likely to die if antivenom was withheld. In pregnancy safety of anti venom is less clear. But risk of withholding antivenom more likely outweighs the risk of administration in appropriate clinical setting. Acute adverse events have been reported following administrations of antivenom to mothers but only 1 case of serum sickness has been reported in pregnant mother<sup>11</sup>.

### Conclusion:

Management of snakebite in pregnancy is very much challenging. Snakebite in pregnancy carries a significant risk on mother and fetus. Fetal survival depends on maternal survival. Considering the risk

benefit early treatment is imperative.

**Competing interest:** The authors declare that they have no competing interests.

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