INTRODUCTION

Common krait (B. caeruleus) is prevalent in Pakistan, India, Sri Lanka, Nepal and Bangladesh. Snakebite in pregnancy, although rarely reported in medical literature, carries significant risks to the mother and fetus. We present a case report which, to the best of our knowledge, is the first of its kind from Pakistan, involving common krait (Bungarus caeruleus). A pregnant lady presented with myasthenia like syndrome. She was diagnosed as a case of snakebite due to common krait (Bungarus caeruleus) based on syndromic approach in Southeast Asia.

CASE REPORT

A primigravida, 22 years old, married for one year, resident of Rawalpindi (Pakistan), having gestational amenorrhea of 30 weeks, woke-up early morning from the carpeted floor of her house, and felt diffuse abdominal pain, with nausea and feeling of change in position of the fetus. She was taken to Gynaecology and Obstetrics Department at Military Hospital, Rawalpindi where after initial review by gynaecologist, she was found to be alright from gynaecological point of view. Subsequently, she started feeling headache and diplopia. She was seen by ophthalmologist, where she had drooping of eyelids, difficulty in breathing and standing followed by uncontrolled salivation. She had no history of urinary or fecal incontinence. She had no history of snake / insect bite or taking canned food.

The patient was diagnosed a case of myasthenic crisis with differential diagnosis of botulism. However, on repeated inquiry, she noted having itching on inner aspect of left thigh where two prominent fang marks were found. She was diagnosed as snakebite with common krait (B. caeruleus) based on WHO syndromic approach to snakebite identification in Southeast Asia (i.e. minimal local signs, neurotoxicity and bitten on land while sleeping on ground) and geographical distribution of common krait (B. caeruleus) in Rawalpindi.

On examination, her pulse was 130/minute and respiratory rate 34/minute. Systemic examination revealed Glasgow Coma Score 9/15, with bilateral ptosis, diplopia, poor cough reflex and poor neck holding. Power was 3/5 in all four limbs and plantars were down going bilaterally. Cardiovascular and abdominal examination was unremarkable. Examination of respiratory system showed paradoxical type of respiration with bilateral equal and vesicular breath sounds. Initial investigation revealed that 20 minutes whole blood clotting test (20 WBCT) was clotted; haemoglobin level was 10.2 g/dl; Prothrombin time was 13/13 and PTTK was 34/34. Echocardiography revealed ejection fraction 60% with good left ventricular systolic function.

On admission, 200 ml of anti-snake venom (ASV) was given along with neostigmine 1.5 mg stat intravenously (i/v) and repeated thrice at 30 minutes intervals. However, due to deteriorating neurological signs and respiratory paralysis, she was placed on ventilatory support on synchronized controlled mandatory ventilation (SCMV) mode. Another 100 ml of ASV was given due to hypotension and shock (blood pressure 90/60 mmHg) and another 200 ml of ASV was given on day 4. Total amount of ASV administered was 500 ml. On the 4th day, patient developed adult respiratory distress syndrome (ARDS) and shock which was managed with vasopressors, injection Piperacillin sodium/Tazobactam sodium 4.5 g i/v 8 hourly and Metronidazole 500 mg i/v 8 hourly.

On day 5 of admission, she developed supraventricular tachycardia (SVT) with heart rate ≥ 250 per minute and hypotension and was managed with DC cardioversion.
Ultrasound for fetal well-being was done which showed single alive intrauterine pregnancy with oligohydramnios without fetal hydronephrosis. Tracheostomy was done on day 9, she was placed on spontaneous mode of ventilation on day 11 and tracheostomy removed on 20th day of snakebite.

On the 14th day of admission, patient started having uterine contractions followed by premature birth of a baby girl and early death because of neonatal sepsis. Patient was discharged from the hospital on 30th day of admission.

On follow-up visit, patient had mild tracheal stenosis being managed conservatively.

DISCUSSION

Report of snakebite during pregnancy is rare in medical literature, especially in Pakistan. A review by Langely showed there were only 213 reported cases of snakebite during pregnancy from 1966 to May 2009. Mothers receiving antivenom had mortality of 2.1% versus 6.6% in cases not receiving antivenom. In hospitalized patients, snakebites during pregnancy account for 0.4 to 1.8% of hospitalized snakebite victims. Mechanisms of fetal death due to snakebite in pregnancy include premature uterine contraction, direct venom toxicity, abruptio placenta, fetal anoxia, supine hypotension syndrome and maternal anaphylaxis.

Venomous snakes in Southeast Asia belong to Elapidae (Cobras and Kraits) and Vipers (typical vipers and pit vipers). Kraits, identified by alternating black and white cross-bands across body are found in all South Asian countries except Philippines. Currently, 12 species of kraits are recognized in the world. In Pakistan, three species of kraits are identified. Common kraits (B. caeruleus) is reported throughout Punjab, Khyber Pakhtoonkhwa (KPK), Azad Kashmir, Sindh and Southern Balochistan. Common in Indus valley, this is the only species of kraits found in Rawalpindi (location where this snakebite occurred) and Islamabad. Sindhi krait (B. sindanus) is prevalent in Tharparkar, Bahawalnagar and Bahawalpur. Northern Punjab krait (Bungarus s. razai) is reported from Mianwali. Study of admitted snakebite cases in Pakistan revealed less than 5% neurotoxic snakebites, rest were viper bites.

Snakes can be identified by direct inspection of snake, however, as in most cases, snake is not brought for identification, therefore, a syndromic approach, studied by Ariaratnam et al. in Sri Lanka is incorporated into WHO guidelines for management of snakebite in Southeast Asia 2010. Keeping in view the geographical distribution and syndromic approach, the snake was identified as common krait (B. caeruleus) in this case. Abdominal pain is the initial symptom of krait bite and may mimic surgical abdomen. This is followed by drooping of eyelids, double vision, weakness of limbs and breathing difficulty progressing to neuromuscular paralysis. In an unknown scenario, patient gets-up at night, with colicky abdominal pain and may be misdiagnosed as acute abdomen. Kraits may have painless bites and negligible local swelling. The affected individual may not even wake-up from sleep when bitten. In a Sri Lankan study, out of the 42 snakebites due to B. caeruleus (identified by inspection of dead snakes) all except one were bitten at night while sleeping on ground, 13 (31%) patients were not aware of bite but had woken-up with colicky abdominal pain and in 12 (28%) patients site of bite was undetectable.

A study was conducted on the role of neostigmine and Indian polyvalent ASV on common krait (B. caeruleus) in India. Out of 77 patients who were given 10 vials of polyvalent anti-snake venom and three doses of neostigmine 2.5 mg iv and atropine 0.6 mg at 30 minutes intervals, 2 patients died and rest 75 required assisted ventilation. Cardiotoxicity detected by arrhythmias or abnormal ECG in snakebite patient is indication of ASV administration.

Snakebite in pregnancy carries significant risk to the mother and the fetus. It is recommended that proper management of the envenomed patient, including prompt transport to hospital, administration of ASV, correction of hypotension, shock and cardiac arrhythmias and early institution of ventilatory support, as seen in this case, can lead to good maternal and fetal outcome. Moreover, awareness and evolution of syndromic approach to snake identification in each
geographical location of Pakistan as guided by WHO guidelines can lead to reduction in snakebite morbidity and mortality.

REFERENCES


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