AN INTERESTING CASE OF ISCHEMIC STROKE FOLLOWING SNAKE BITE

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Abstract:
Snake bite commonly causes hemorrhagic stroke which results from hemorrhagins and other hemotoxins presents in the snake venom. Ischemic stroke as a presentation of snake bite is rare. Cerebral complications, particularly ischemic complications, after snake bite are rare. Very few cases of cerebral infarction resulting from a viper bite have been reported. In a study of 309 patients with snake bite, Mosquera, et al. reported cerebrovascular complications in 8 patients (2.6%) - 7 hemorrhagic strokes and 1 ischemic stroke. Bashir and Jinkins et al, reported a patient in whom envenomation with Russell’s viper resulted in hemiplegia and aphasia, consistent with middle cerebral artery infarction. Murthy et al, reported a case of cerebral infarction and diffuse encephalopathy following a viper bite. I report a patient who presented with ischemic stroke following snake bite in Government Rajaji Hospital, Madurai.

Keyword: ischemic stroke snake bite AN INTERESTING CASE OF ISCHEMIC STROKE FOLLOWING SNAKE BITE

Introduction
Snake bite commonly causes hemorrhagic stroke which results from hemorrhagins and other hemotoxins presents in the snake venom. Ischemic stroke as a presentation of snake bite is rare. Cerebral complications, particularly ischemic complications, after snake bite are rare. Very few cases of cerebral infarction resulting from a viper bite have been reported. In a study of 309 patients with snake bite, Mosquira, et al. reported cerebrovascular complications in 8 patients (2.6%) - 7 hemorrhagic strokes and 1 ischemic stroke. Bashir and Jinkins et al, reported a patient in whom envenomation with Russell’s viper resulted in hemiplegia and aphasia, consistent with middle cerebral artery infarction. Murthy et al, reported a case of cerebral infarction and diffuse encephalopathy following a viper bite.
report a patient who presented with ischemic stroke following snake bite in Government Rajaji Hospital, Madurai.

**Case Vignette:**

25 years old female was admitted with viper snake bite on her left foot. Her neurological examination revealed bilateral ptosis, external ophthalmoplegia, left facial palsy and left hemiplegia. Subsequently she developed respiratory difficulty and was intubated. Patient was administered antisnake venom, antibiotics, IV fluids & showed improvement.

**Investigations:**

Blood sugar, urea, & creatinine were normal. ESR was 6mm / hr & Platelet count was 3 lakhs/mm3. Coagulation profile - clotting time > 20mths, APTT 38secs, PT 15 sees and serum fibrinogen level was 500mg %. Vasculitic work up - negative for ANA, dsDNA and for APLAS. Screening for hypercoagulable states - Protein C, Protein S and Antithrombin III were normal. Cardiac evaluation -Echo was normal. CT Brain showed Bilateral cerebellar & left thalamic infarct. MRI Brain revealed Bilateral midbrain, Right pons, Left thalamus and Bilateral cerebellar infarcts. MRA & MRV were normal. Patient was treated with Antisnake venom, antibiotics, IV fluids & subsequently showed significant improvement. The possible mechanisms are

1. Disseminated intra vascular coagulation,
2. Procoagulants in snake venom,
3. Toxin induced vasculitis & endothelial damage. Hypercoagulation due to procoagulants in the venom, such as arginine, esterase, and hydrolase and hyperviscosity caused by hypovolemia and hypoperfusion secondary to hypotension may contribute to vessel occlusion. Potent proteases in snake venom act as activators of clotting factors X, V and thereby promoting coagulation. Bashir and Jinkins suggested direct action of the venom on vascular endothelial cells. Hemorrhagins, the complement

1. mediated toxic components of vipersidae snake venom, may result in severe vascular spasm, endothelial damage, and increased vascular permeability - all of which may contribute to vascular occlusion. Viper venom is also said to cause cardiac dysrhythmias & thromboembolism. Cerebral infarction may be totally unrelated & may be the manifestation of inherent deficiency of protein C,S and Anti thrombin III.

2 Better outcome has been reported with early and adequate ASV treatment.

**Conclusion:**

Hemorrhagic stroke following snake bite is a well known complication. This case is presented to highlight the relatively rare manifestation - ischemic stroke and the possible mechanisms.

**References:**