



Acute Ischemic Infarct in Patient with Russel Viper Bite

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Abstract

Ischemic stroke is rare in patient with snake bite. We report a case a 45year male with alleged history of snakebite with haematological manifestation developed left hemiplegia on second day. CT Brain taken showed hyperacute infarct in right middle cerebral artery territory. This manifestation may be due to toxin induced vasculitis, vasospasm, endothelial damage and disseminated intravascular coagulation.

Keywords: *Ischemic stroke, Russel viper bite.*

Introduction

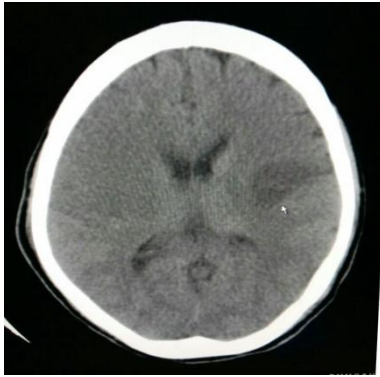
India has highest mortality due to snakebite in the world, according to WHO statistics 83,000 snakebite occurs in India among this 11,000 - death occurred per annum. Around 236 species of snake are present in India among that 13 species are poisonous¹. Most common snake bites are due to viper. Viper bite cases manifest with cellulitis and haematological manifestation. Stroke is a rare manifestation and it's due to haemorrhage, Ischemic stroke is reported rarely. We are reporting it for its rarity.

Case Summary

This 45 yrs male was brought up by relatives with alleged history of snakebite over right foot. He was brought 4hrs after snake bite, he is non alcoholic, not a smoker and there was no comorbid conditions like hypertension, diabetes or other cardiovascular disease, on examination his GCS 5/15, mouth bleeding present, not pallor, no

cyanosis, no clubbing, features of cellulites was present in right foot, fang mark present in right dorsal aspect, PR:94/min, BP:110/80mmhg, CVS: S1, S2 heard, no murmur, RS:NVBS+, no added sounds P/A:soft,not tender, CNS: GCS-6/15,b/l pupil 3mm reacting to light, Tone -normal, moving both limbs to painful stimuli, bilateral plantar mute and no focal deficit on first day. Whole blood clotting time was more than 20 minutes. These features are suggestive of hematotoxic snake envenomation. He was treated with mechanical ventilation, Anti snakevenome, IV antibiotic, IV fluids and other supportive care. After 18 hrs of admission his neurological examination showed left side hemiplegia with paucity of movement in left upper and lower limb, power was 0/5 in left upper and lower limb, plantar extensor response on left side. So CT brain was taken and it showed hyper acute infarct in right middle cerebral artery territory.

His whole blood clotting time become less than 20 minutes after 42 hrs of admission. Then T.Aspirin, T.Clopilet, T.atorvastatin added for treatment. His condition gradually improved he was discharged with residual weakness of left upper and lower limb and after 2 months of follow up he is able to walk with support.



Discussion

Incidence of ischemic stroke after snake bite is 2.6% in study conducted in 309 patient with snake bite, mosquera et al. In that study 8 cases of stroke were reported - 7 haemorrhagic² and 1 ischemic stroke. In Srilankan study 9 ischemic stroke out of 500 cases of snake bite. Possible mechanisms are as follows:

1. Procoagulant and anticoagulant effect of snake venom produce microthrombi that occludes small and large vessels.³
2. Severe vascular spasm due to hemorrhagin a complement mediated toxic component of venom. It also causes vasculitis all these leads to thrombosis and occlusion of vessels.³
3. Preexisting deficiency of protein C or S or antiphospholipid antibodies may increase tendency towards thrombosis
4. Venom induced arrhythmias causing thromboembolism
5. Hyperviscosity caused by hypercoagulation and hypovolemia can cause vessel occlusion.^{4,5}

Conclusion

Learning point from this case is in a stroke patient snake envenomation can be considered as one of the cause particularly in southern India. Neurological manifestation can be due to procoagulant and anticoagulant effect of snake venom, vasculitis and vasospasm induced by the snake venom.

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