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Can We Predict the Severity of Common Krait Envenomation at Presentation?

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Abstract

Cranial nerve involvement is common clinical manifestation in Indian common krait envenomation. In this study, we have looked at the severity of envenomation based on cranial nerve involvement.

Subjects and Methods: The prospective cohort study was conducted in the medical emergency of our hospital. All the patients presenting with neuroparalysis without local signs and symptoms following snakebite were included in the study from January to December, 2010. Data extracted included demographic details like age, sex, the time and site of snakebite, symptoms and signs , need for ventilation, type and duration of ventilation, duration of the hospital stay and final outcome were noted. On admission, cranial nerve involvement was specifically looked for. Third cranial nerve involvement presented with ptosis. 3rd, 4th and 6th cranial nerve involvement presented with complete ophthalmoplegia. Absence of gag reflex was attributed to 9th and 10th cranial nerve involvement. The patients were divide into 3 groups, Group A (Isolated 3rd cranial nerve involvement), Group B (3rd, 4th and 6th cranial nerve involvement) and group C (3rd cranial nerve with other cranial nerves except 4th and 6th cranial nerve involvement). Data was presented as numbers, percentages, mean ± SD and median (IQR). Logistic regression and univariate analysis were used to predict the effect of various confounding factors on the outcome and duration of hospital stay. P value < 0.05 was considered statistically significant.

Results: 69 patients presented with neuroparalytic snakebites during the study period. 78.3% of the victims were males. Mean age was 29±3.5years (age range 19-58 years). The most common site of bite was upper limb (32%) followed by lower limb (29%). Five patients had no signs of envenomation. 26 patients had isolated 3rd cranial nerve involvement (Group A) and 31 had complete ophthalmoplegia (Group B) and 6 patients had 3rd nerve involvement with absent gag reflex (Group C). Out of 69 patients, 90% required ventilation due to respiratory paralysis. Mean duration of hospital stay in Group A was 130.42 hours, mean duration of intubation was 86.43 hours and mean duration of ventilation was 81.63 hours. In Group B, patients hospital stay was prolonged 181.32 hours, with prolonged intubation 139.93 hours and longer period of ventilation 104.96 hrs. In Group C patients the hospital stay was 136.82 hours, duration of intubation was 96.3 hours and duration of ventilation was 93.27 hours, which was more than group A.

Conclusion: Complete ophthalmoplegia at presentation is an indicator of severe envenomation requiring prolonged intubation, ventilation and longer hospital stay in Indian common krait envenomation. This can be used as an important clinical indicator of severity at admission.