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### **Efficacy of low dose anti-snake venom for severe neuroparalysis in Bungarus caeruleus (common krait) envenomation: A pilot study**

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**Aim and objectives:** Despite its widespread use, the dose of anti-snake venom has long been a point of contention. A low-dose regimen can prevent the scarcity of anti-snake venom in low-middle-income countries. This study aimed to demonstrate the effectiveness of a low-dose anti-snake venom with 10 vials compared to the usual 20 vials in patients with krait bite neuroparalysis requiring invasive mechanical ventilation.

**Methodology:** This study was a prospective controlled pilot study conducted in a tertiary-care hospital in north India. Participants were eligible if they were aged  $\geq 12$  years; had krait bite neurotoxicity; severe paralysis requiring invasive mechanical ventilation; and could receive anti-snake venom within 24 hr of snakebite. The primary outcome was the duration of invasive mechanical ventilation, and the secondary outcomes were the length of hospital stay and in-hospital survival. Kaplan-Meier survival curves were constructed for the duration of mechanical ventilation and hospital stay in the two treatment groups.

**Results:** Of the 77 screened patients with krait bite neuroparalysis, 32 did not receive invasive mechanical ventilation. Of the 45 enrolled, 15 received 10 vials, and 30 received 20. The two treatment groups had similar baseline demographics, clinical and laboratory features, snakebite severity scores, and the median time from snakebite to initiation of anti-snake venom. The low-dose regimen was as effective as the standard dose concerning the median duration of invasive mechanical ventilation (41 hr vs. 55 hr, P= 0.094), the median length of stay (78 hr vs. 85.5 hr, P= 0.360), and in-hospital deaths (1 vs. 3, P= 1.000). There was no significant difference between the Kaplan-Meier curves for the duration of assisted ventilation and hospital stay (log-rank test; P= 0.204 and P= 0.346, respectively). The incidence of ventilator-associated pneumonia was similar between the two groups (1 vs 3, P= 1.000).

**Conclusion:** A low-dose anti-snake venom effectively treats patients with severe krait bite neuroparalysis. This study incites further clinical trials to strengthen the evidence for a low-dose regimen, essential to prevent the scarcity of anti-snake venom in low-middle-income countries.