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Letter to Editor

LETTER TO EDITOR

Risk of hemorrhagic stroke after venomous snakebite: correspondence

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We read with great interest the epidemiological study by Hung *et al.*[1] investigating the effect of venomous snakebite on the subsequent clinical presentation of stroke. They noted that patients with venomous snake bites (represented by the simultaneous use of anti-venom) are at higher risk of new hemorrhagic strokes (not ischemic stroke) than the general population, and they made some plausible arguments through complex pathophysiology, including venom toxin-associated fibrinolysis and coagulation. We have several concerns about some residual confounders.

First, although the study and reference groups had similar baseline characteristics (age, sex, comorbidities and previous anticoagulant therapy), the use of anticoagulants during follow-up or before the stroke event was unclear, as was the case with aspirin, warfarin and non-vitamin K antagonist oral anticoagulants.[2]

Second, significant associations between snakebite and individual's occupation have been mentioned and that about 50% of bites occurred in men working in outdoors environment.[3] In Table 4, the association between snakebite and incident hemorrhagic stroke was significant in elderly and male subgroup. In patients with snakebites, their outdoor work may have a role in greater risk of trauma and even traumatic intracranial hemorrhage. Therefore, the confounding mediating role of occupational status between snakebite and hemorrhagic stroke cannot be ignored in the study. We suggest that the authors perform a more stratified analysis to distinguish the etiology of hemorrhagic stroke as traumatic or non-traumatic to make the findings more solid.

Although we have expressed some reservations about the study reported by Hung *et al.*, this study still provides useful insights, and we look forward to their response.

Conflict of interest: None declared.

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