

## New approaches to paralytic snakebite, A WHO-designated neglected tropical disease

Rais Vohra<sup>1,2</sup> and Matt Lewin<sup>3</sup>

<sup>1</sup>UCSF-Fresno Medical Center,

<sup>2</sup>California Poison Control System,

<sup>3</sup>California Academy of Sciences, USA

Venomous snake bites affect at least 400,000 people and claim approximately 20,000 lives each year, mainly in the rural tropics. Paralysis is a common mechanism of death for those bitten by cobras, kraits, mambas, and a number of Australian snakes. Because it is an ancient scourge and a modern problem, superstition continues to sabotage evidence-based approaches to snakebite. A major challenge is the fractured state of communication and research among major stakeholders. Neurologists can contribute tremendously to urgent and achievable goals for the benefit of victims of snakebite worldwide. We propose 4 related, interdisciplinary, projects:

- National and global surveys of herpetologists, neurologists, emergency and critical care workers about the local therapies and available resources (e.g., antivenoms, neuromuscular pharmaceuticals, and ventilators) for snakebite-paralyzed victims in high-incidence regions
- use of noninvasive tests (such as diaphragm ultrasound and NIF scoring) to assess muscle function and respiratory capacity of bitten and treated victims
- use of simple neurologic testing modalities (such as physical exam, EMG and nerve conduction testing) to describe the timing and severity of snakebite paralysis, and response to antivenom and other therapies
- high-quality trials of low-cost neuromuscular medications which could revive neuromuscular junction function in patients affected by paralytic venoms and be taken orally or intra-nasally.

In 2006 the WHO added snakebites to a list of Neglected Tropical Diseases which need urgent, multidisciplinary attention. Intelligent collaborations are urgently needed to ameliorate this ongoing epidemic.

### Biography

Dr. Rais Vohra completed emergency medicine residency at UT Southwestern Medical Center, and then Fellowship in Medical Toxicology at UC San Diego. He is currently Associate Medical Director of the California Poison Control System's Fresno-Madera Division, and the Director of Toxicology and Attending Physician in Emergency Medicine at the UCSF-Fresno Medical Center in Fresno, CA.

[raisvohra@hotmail.com](mailto:raisvohra@hotmail.com)