The bite of *Lactrodectus indistinctus* (button spider)

A case report

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Summary

*Lactrodectus indistinctus* (button spider) is widely distributed in South Africa. However, the incidence of lactroductism is unknown and no case reports have appeared recently. The importance of the recognition of this syndrome is stressed since a history or evidence of the spider bite may be absent or overlooked.

Case report

A 33-year-old man from the Boland was bitten in the upper part of the back by a small button spider (*Lactrodectus indistinctus*). Severe pain was immediately experienced at this site and half an hour later severe gripping chest pain developed. He visited the local hospital where hydroxyzine was administered intramuscularly and he was discharged. The chest pain subsided but was followed by profuse sweating, fever and chills. No abdominal symptoms occurred. The other symptoms persisted unabated and the following day he visited Montagu Hospital from where he was transferred to Groote Schuur Hospital.

On arrival the patient's temperature was 37.5°C, he was mildly dehydrated and sweating profusely. There was no evidence of the original bite. The pulse rate was 120/min and the blood pressure was 140/100 mmHg. There was no salivation and his pupils were equal and reactive to light. There was generalised muscular tremor and hyperreflexia but no loss of muscular power. His mental state was normal and the remainder of the examination was unremarkable. The spider was positively identified as *L. indistinctus*.

Results of laboratory investigations were: haemoglobin 19.0 g/dl, white cell count 12.5 x 109/l and platelets 25.0 x 109/l. The electrolyte, urea and creatinine levels were normal as were the chest radiograph and ECG.

Intravenous and oral fluids were administered. Antivenom was administered for local pain relief. Antivenom is available, but in the USA it is only recommended in severe cases or those involving the very young or old, and in those with cardiorespiratory disorders; it also relieves unnecessary suffering. A horse antivenom, the most refined commercially available at present, can be obtained from the South African Institute for Medical Research.

*L. indistinctus* is a timid nocturnal spider distributed widely in South Africa except in areas of high-density housing. It has recently been reclassified as a species distinct from *L. macans*. Bites of this spider are rare and usually occur only when it is trapped in clothing. Identification of the spider (only the female of the species has clinical significance) may be difficult but it must be differentiated from *L. geometricus* and occasionally *L. rhodensis* which are much less toxic. These spiders can be clearly identified by their size, markings, colour, egg sacs and habitat.

The active component of the venom of the US spider *L. macans* (which is similar to *L. indistinctus*) is a neurotoxin and the active moiety is an α-latrotoxin, an acidic protein with a molecular weight of 130 000 daltons. In experimental animals it causes nonspecific release of neurotransmitters from pre-synaptic neurones and prevents re-uptake of transmitters. It causes a massive influx of calcium ions and release of transmitters. The influx of calcium is not blocked by calcium channel blockers. The toxic effect may be inhibited by earlier administration of concanavalin A, α-latrotoxin or by calcium-free substrate. Alpha-latrotoxin has proved a useful substance for experimental work on the action and identification of neurotransmitters.

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REFERENCES