

White-tail spider bites

An overview of best practice

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ACC Review 42

- Bites from White-tail spiders (*Lampona cylindrata* and *L. murina*) are uncommon and usually settle with no treatment.
- Over the past 10 years there have been at least 19,255 claims to ACC for suspected White-tail spider bites.
- In a review of 130 confirmed White-tail spider bites in Australia, there were no cases of necrotising arachnidism or confirmed infections.
- In an informal survey of New Zealand dermatologists, 48 out of 50 consecutive patients with White-tail spider bites had an alternative diagnosis:
 - inflammatory dermatoses (36%)
 - infections (18%)
 - other insect bites/stings (14%).
- There are three patterns of White-tail spider bite reaction:
 - pain only (21%)
 - pain and red marks for less than 24 hours (35%)
 - a persistently painful or irritating red lesion (44%).

Background

Despite little scientific evidence that bites by White-tail spiders (*Lampona cylindrata* and *L. murina*) are a threat to human health in New Zealand^{1,2} or elsewhere,³ there have been at least 19,255 claims to ACC in the past 10 years.

In a review of 130 confirmed White-tail spider bites in Australia, there were no cases of necrotising arachnidism or confirmed infections.³ Most bites, when they occurred, did so indoors, at night, following accidental contact with the White-tail spider from bedclothes, towels or linen.³ The median duration of effects was 24 hours (range, 1–168 hours). There were three distinct clinical patterns: pain only (21%), pain and red marks for <24 hours (35%), and a persistently painful or irritating red lesion (44%). Studies of the cytotoxic effects of White-tail spider venom showed it has little potential to cause necrosis.^{4,5}

So what conditions do patients claiming to have been bitten by White-tail spiders have? An informal email survey of New Zealand dermatologists suggests that patients have a myriad of different skin conditions, but very few were attributable to a bite by a spider.

Table 1. Dermatological diagnoses of 50 consecutive cases of suspect White-tail spider bites

| Diagnosis | Number of cases | % |
|---|-----------------|----|
| Inflammatory dermatoses (eczema, contact dermatitis, nodular prurigo, psoriasis) | 18 | 36 |
| Infections (folliculitis, cellulitis, scabies, tinea) | 9 | 18 |
| Inflammatory/immune responses (erythema nodosum, vasculitis, Sweet's syndrome, necrobiosis lipoidica, granuloma annulare) | 9 | 18 |
| Possible insect bites (fleas, 'sandflies' (<i>Simuliidae</i>), mosquitoes, etc) | 7 | 14 |
| Possible White-tail spider bites | 2 | 4 |
| Other (trauma, Bowen's disease, varicose ulcer) | 5 | 10 |

Data were obtained for 50 consecutive cases of suspected White-tail spider bites. In only two cases was a White-tail spider bite considered possible. Of the remaining 48 patients, most presented with inflammatory dermatoses, followed by infections, inflammatory immune responses and other probable insect bites (Table 1).

Case Histories

In the two cases where a spider bite was considered likely, both patients claimed to have seen the spider in the act of biting. The patients had puncture marks in the skin, and complained of a mildly painful reaction around the bite that persisted for approximately 24 hours. In neither case, however, was the involvement of *Lampona spp.* confirmed by proper taxonomic identification of specimens.

Spiders in New Zealand

Whilst there are an estimated 2,500 species of spider in New Zealand,⁵ confirmed bites are relatively rare occurrences. Although isolated incidents of spider bites have been reported in New Zealand associated with half a dozen or so species,⁶⁻⁸ in reality, only the *Latrodectus* species are documented to be venomous to humans. Australian redback spiders (*L. hasselti*) are commonly intercepted on imported goods, but there seem to be only isolated populations of these spiders in this country. Therefore, despite being a regular hazard to humans in Australia,⁹ the same does not apply in New Zealand. There are records of envenomation by the native katipo (*L. atritus* and *L. katipo*),^{8,9} but since these are sparsely distributed and reclusive, bites are rare.^{8,9} There are two White-tail spiders, *Lampona cylindrata* and *L. murina*, which have been in New Zealand for more than 100 years.¹ They are nocturnal and often associated with human dwellings.¹ Whilst not aggressive to humans, they will bite if provoked. The bite is immediately painful, so it is usually possible to see and catch the spider.

Diagnostic Criteria

The following basic diagnostic criteria for White-tail spider bites are recommended:

1. A White-tail spider must be observed in the act of biting (not just observed in the vicinity)³
2. Bites are immediately symptomatic³

3. Puncture wounds are usually visible in the first 24 hours
4. Reaction in most cases should settle within 72 hours³

Ideally the spider should be caught and sent for proper taxonomic identification (see Derraik et al.² for guidance in this regard), although digital photography may be a reasonable alternative.

Differential Diagnosis

Cases in New Zealand that do not fulfil the above criteria are unlikely to have been caused by White-tail spider bites. First consider other insect bites such as fleas, 'sandflies' (*Simuliidae*) or mosquitoes, particularly if they are itchy. If there is a suggestion of infection, consider *Staphylococcus aureus* folliculitis, ecthyma or cellulitis. If the lesion persists, consider inflammatory dermatoses and if the lesion blisters, consider one of the many blistering disorders.

Management

Most White-tail spider bites will settle with no treatment. Ice can be applied for immediate pain control, followed by standard doses of anti-inflammatories and/or anti-histamines for symptomatic relief. Secondary infection of any broken skin can occur: treat initially with an antiseptic cream such as 1% hydrogen peroxide or 10% povidone-iodine. Rarely cellulitis can develop: consider treatment for *Streptococcus* or *Staphylococcus aureus* infection with oral flucloxacillin (erythromycin if allergic to penicillin).

References

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