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Tarantula hair keratitis

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Abstract

We describe a 12-year-old boy in England with keratitis secondary to tarantula hairs embedded within the stroma of his cornea. Every attempt must be made to isolate these hairs at the first visit as they have a barbed nature and have a propensity to propagate through ocular tissues. A chronic keratitis requiring long-term steroid use may result if hairs persist in the cornea. Children who keep tarantulas as pets should be instructed on safe handling to prevent the tarantula from adopting defence mechanisms and shedding their hairs.

We describe a case of keratitis secondary to corneal tarantula hairs with resulting inflammation.

Case report

A 12-year-old boy in England presented to the local casualty with a red itchy right eye. He recently acquired a pet tarantula spider named Stevie after the late wildlife celebrity and conservationist Steve Irwin.

Without gloves or eye protection he quickly scooped his tarantula with one hand. The tarantula adopted a defence mechanism spraying its hairs into the boy's eyes and biting his left wrist.

On examination visual acuity was 6/6 OD 6/4 OS. There was right conjunctival injection. A hair was removed from the right cornea. It was thought there were no visible hairs in the inferior fornix or on upper lid eversion. A puncture bite was visible on the palmar aspect of his wrist.

Two days later, visual acuity was 6/9 OU. No visible hairs were seen. The eyes were still itchy with mild conjunctival injection only. Four days later, four intrastromal corneal hairs were visible on slitlamp biomicroscopy. The anterior chamber and vitreous were quiet. Intraocular pressure was normal. He remained on G Pred Forte (prednisone) and G chloramphenicol qid for 4 and 1 weeks respectively until further notice.

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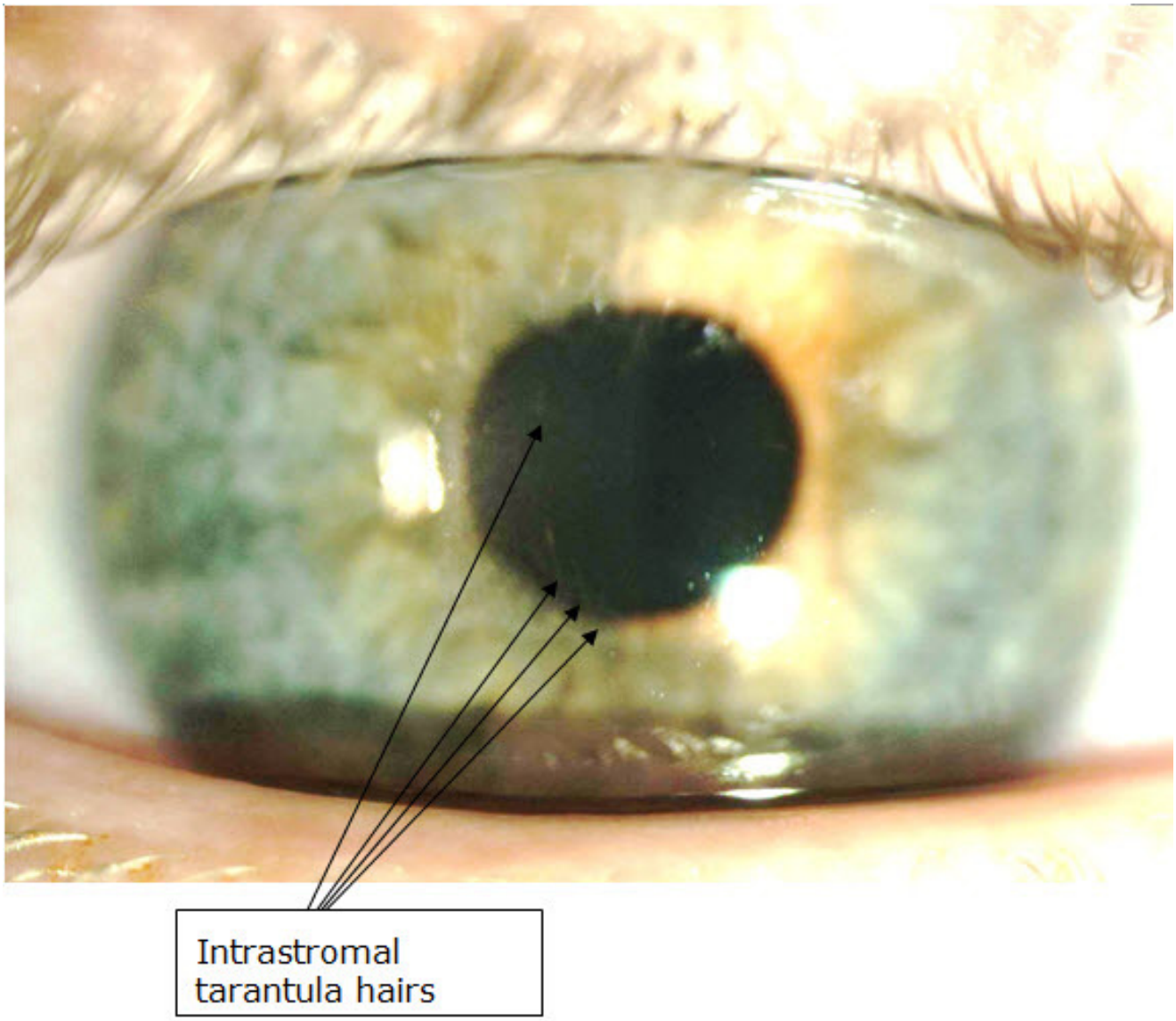
Figure 1. Tarantula spider hairs on the boy's eye



Discussion

Ophthalmia nodosa was first described in 1906 [1]secondary to caterpillar hairs and it is now used to describe ocular inflammation secondary to urticating hairs such as those of a tarantula.

The tarantula hairs are type III urticating hairs with a barbed appearance under electron microscopy. This barbed feature allows them to migrate relentlessly within ocular tissue. Hence they can penetrate corneal epithelium into the stroma causing a chronic keratoconjunctivitis. They can also penetrate descemets membrane and enter the anterior chamber to cause chronic anterior uveitis.

Sanboe et al describe a persisting keratouveitis 10 months after first exposure to the taranatula hair in a 15-year-old boy.[2] Watts et al describe a 16-year-old male with chronic keratouveitis following exposure to tarantula hair. Topical steroid therapy made him asymptomatic, however at 4 months there remained a persistent uveitis and keratitis.[3]

The morbidity of long-term topical steroid use is well described including raised intraocular pressure and cataract causation. They may yet migrate further posteriorly to cause a vitritis, retinitis, [2]choroiditis and even involve the optic nerve.[3] This may cause chronic intraocular inflammation requiring multiple hospital visits over a prolonged period of time. Thus vigilant identification of corneal tarantula hairs, including examining under the upper eyelid must be performed at presentation to prevent long-term sequelae.

At the time of writing the hairs were present in the corneal stroma. Surgically removing the hairs by making linear cuts in the cornea over the hairs wasn't performed because of the barbed nature of these fine microscopic would make excision extremely difficult with the risk of the hairs snapping during attempted removal. His symptoms have been controlled with topical steroids.

Chilean Rose Tarantulas (*Phrixotrichus cala*) are becoming an increasingly popular pet in England and some other countries that allow their importation for use as pets. Their popularity is due to their long lifespan (typically around 16 years) and their friendly nature when handled properly. This appears to be the key and is the biggest issue with an excitable child who may overlook this.

Taking extra precautions such as wearing gloves and using eye protection is valuable during the early period while the owner is inexperienced.

A telephone survey of local pet stores was conducted to ascertain handling advice given to future tarantula owners. Twenty local pet stores were contacted, out of which five stocked tarantulas. All advised about handling the tarantula with care and avoiding sudden movements. Only one specifically advised to let the tarantula crawl onto the owner's hand. One mentioned to wear gloves while handling the tarantula as the minute urticating hairs can be left on the hands and can be introduced to other parts of the body such as the eyes. None advised on post handling hand washing. No stores advised on wearing eye protection.

We recommend demonstration of safe handling to children and wearing of hand and eye protection in the early period after acquiring the tarantula.

In the emergency department every attempt must be made to locate and remove these hairs at the initial presentation as it is likely this will be the only opportunity in which this procedure can be performed.

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