

Successful Treatment of Lick Granuloma with Chiropractic Therapy

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ABSTRACT

A well defined clinical history of a dog with an acute lick granuloma which resolved after chiropractic adjustment. [Lynch T (2003) *Aust Vet Practit* 33:176]

HISTORY AND CLINICAL FINDINGS

A two-year-old Kelpie cross female was presented with a round 4cm raised, inflamed, moist skin lesion on her left rib cage. The lesion was situated 10cm dorsally from the sternum, over ribs four and five and the dog had licked the lesion continually. The owner had also noticed her licking under her left foreleg the day before. The dog was generally a hyperactive individual and was tied to a run lead during the day, released for a couple of hours in the afternoon and then retied during the night. There are no other companion animals in the household.

During the clinical examination, the dog had to be forcefully constrained from licking. The skin around the lesion was hypersensitive to touch, as was the skin over ribs four and five and the intercostal spaces to the thoracic vertebrae four and five. Chiropractic examination revealed pain on rotation to the right of the vertebrae T 4-5 and pain on extension of the heads of ribs four and five. Chiropractic adjustment* was performed to the thoracic vertebrae and the heads of ribs four and five. These were then retested for pain with the same rotation and extension. The pain response was no longer present and normal range of motion was achieved. The skin was palpated to test for the previous hypersensitivity down the ribs; this was no longer

present. The dog showed no further interest in the lesion immediately after adjustment. No systemic or topical treatment or superficial washing was applied to the lesion and it was left for subsequent evaluation.

No instruction was given to change the way the dog was restrained. Two days later, the lesion had dried and a crust had formed. There was no evidence on the lesion of a recurrence of licking. The visible inflammation had decreased significantly (*Fig 1*). The dog was able to be observed regularly during the day and no licking was reported since adjustment. Three days later, the crust of the lesion had come away and the underlying skin was pink and healing with no evidence of further licking (*Fig 2*). The lesion proceeded to heal rapidly and there has been no resumption of licking during the four months since treatment.

DISCUSSION

Lick granulomas** in dogs have been reported most commonly on the dorsal surface of the carpus or metacarpus and the hock (Anon 1974, White 1990, Virga 2003). The origin has been considered both organic and psychogenic (Anon 1974, Muller 1995, Virga 2003). Factors such as boredom, anxiety and stress have been implicated (Anon 1974, Muller 1995) as well as minor local injuries (Anon 1974). An electrophysiology study using dogs with lick granulomas demonstrated a decrease in amplitude of sensory nerve action potentials in the affected area, suggesting there was sensory axonal

*Chiropractic adjustment was a short lever, low force, high velocity, controlled thrust by hand in the direction of the angle of the joint facets.

**Classification based on gross appearance.

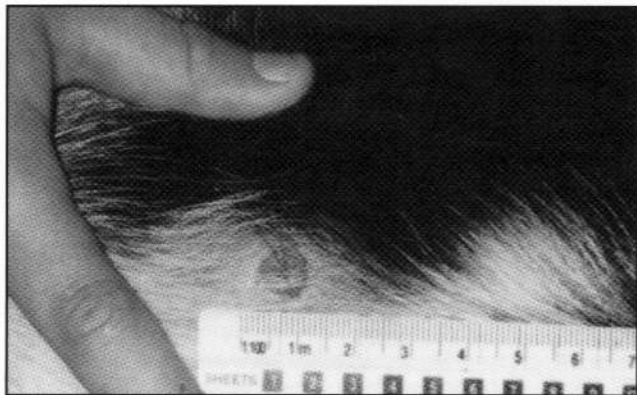


FIGURE 1: Two days after adjustment a scab has formed.

neuropathy present (van Nes 1986). Studies with constricted sciatic nerves in rats have shown that substances like kinins produce a nociceptor hypersensitivity on the ipsilateral side to constriction of the nerve and the sensation of pain in the sensory neurons (Yamaguchi-Sase *et al* 2003).

Peripheral nerve injury is known to cause hypersensitivity or hyperalgesia (Yamaguchi-Sase *et al*

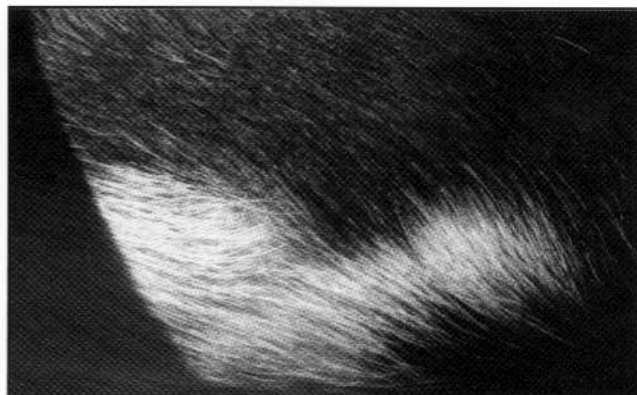


FIGURE 2: Five days post-treatment.

2003) and hyperalgesia behaviour has been observed in rats with compression of lumbar nerve roots (Kawakami *et al* 2000).

The origin of the lick granuloma in this case might be considered psychogenic due to boredom from being tied up for extended periods of time, especially since the dog had a hyperactive nature. Neurological or local dermatological trauma could also be a differential,

considering accidents that can occur with dogs on a run lead. However, the immediate cessation of licking, in response to chiropractic adjustment around the peripheral nerve root at rib heads four and five and thoracic vertebrae four and five, suggested that the origin of the licking behaviour was neurological and not psychogenic. This is further substantiated by the the lack of licking behaviour and the lack of skin hypersensitivity since adjustment.

It is possible that this dog suffered some local injury around the nerve roots that caused hypersensitivity in the skin, resulting in excessive licking and subsequent granuloma formation. The only intervention was chiropractic adjustment and, in a hyperactive and potentially bored animal, if this did not correct the "need to lick", it is most likely that the lesion would have been progressive. In contrast, the lesion abated without any other intervention. Whether there was any sensory nerve neuropathy (van Nes 1986) in this case could not be determined. However, the presence of restricted motion at T4 and 5 suggests there was possible injury or constriction around these nerve roots, which may have led to secretion of locally inflammatory mediators distally in the associated dermatome, inducing associated, excessive behavioural activity (e.g. licking at the site of altered sensitivity). The proposed initiating injury can only be hypothesised but dogs on lead runs do have the potential to induce jerking injuries at the limits of the run.

Further research is needed to establish the neurological basis of lick granulomas¹ however, the success of chiropractic treatment in this case suggests neuropathies should be considered in assessment of lick granulomas.

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¹In the lick granuloma cases (n=10) the author has examined chiropractically, they have all had restricted motion of the spine, associated with peripheral nerve root that innervated the dermatome where the lick granuloma was positioned.