

Localised Dermatitic Nodules but No Itch

Dear Editor,

In 1909, Hyde first described nodular prurigo as pruritic nodules on the extensor surfaces of the lower extremities in middle-aged women. Thus, nodular prurigo is also known as Hyde's prurigo. As the name suggests, nodular prurigo is a chronic dermatosis characterised by an intensely pruritic, papulonodular eruption. We describe a patient who presented with nodular prurigo in a unilateral lower limb due to dysaesthesia and sciatica pain instead of itch.

A 53-year-old man with no known medical or dermatological problem presented to us with multiple lumps on the right lower limb. On examination, he had multiple excoriated nodules only on the right shin extending up to the thigh in the L5 dermatome suggestive of nodular prurigo (Fig.1). There was no itch but instead he complained of dysaesthesia and admitted to constant rubbing and peeling of the skin in order to get rid of the uncomfortable sensation. On further questioning, he revealed that he had been experiencing shooting pains from the buttock down to his right leg whenever he stretched his back for the last 1 year. Neurological examination of the legs revealed normal reflexes, sensation and motor function.

Routine blood tests including full blood count, renal function and liver function tests were normal. Biopsy of one of the nodules showed findings consistent with nodular prurigo. There was psoriasiform hyperplasia, irregular acanthosis with focal hypergranulosis (Fig. 2A). The



Fig 1. Prurigo nodules localised to the right lower limb.

superficial and deep vascular plexuses showed lymphocytic and plasmacytic cuffing. In addition, there was evidence of neural hyperplasia, with the clear identification of nerve trunks adjacent to the lympho-plasmacytic cuffing (Fig. 2B). Magnetic resonance imaging of the lumbosacral spine revealed degenerative disc disease affecting the lower lumbar region, worse at L4/5 (Fig. 2C). The right exiting L5 nerve root was compressed (Fig. 2D).

To our knowledge, this is the second case of a rare occurrence of nodular prurigo in an area of pain instead of itch. Batta et al¹ first described a case of nodular prurigo occurring in the same distribution as sciatic pain from a prolapsed intervertebral disc. We would like to highlight that itch may not be an essential triggering factor that leads to the formation of nodular prurigo, and that dysaesthesia and pain from radiculopathy resulting in rubbing and peeling may also lead to nodular prurigo.

Even though our patient did not experience any itch in the dermatome of the nerve compression, neuropathy is a known cause of pruritus. Neuropathic itch can originate at any point along the afferent pathway as a result of damage to the nervous system.² In a case series of 8 patients with severe nodular prurigo inadequately controlled with standard therapy and were considered for treatment with thalidomide, 5 patients showed evidence of peripheral neuropathy on nerve conduction studies.³ This suggested that nodular prurigo may be associated with an underlying peripheral neuropathy in a subset of patients.

The aetiology of nodular prurigo remains unknown. There is uncertainty as to whether nodular prurigo is a primary cutaneous disease or whether it is a pathological reaction secondary to pruritus and scratching. We propose that in some cases, nodular prurigo is a secondary phenomenon as our patient developed this dermatosis from constant rubbing and peeling without any primary cutaneous disease.

To study the mechanism of discogenic pain, Jung et al⁴ analysed the serial expression of pain-related molecules in the dorsal root ganglia and thalamus using a newly developed rat model of disc degeneration and found that the expression of glial cell line-derived neurotrophic factor, calcitonin gene-related peptide and substance P were significantly increased. Previous immunohistochemical studies in nodular prurigo has demonstrated proliferation of substance P and calcitonin

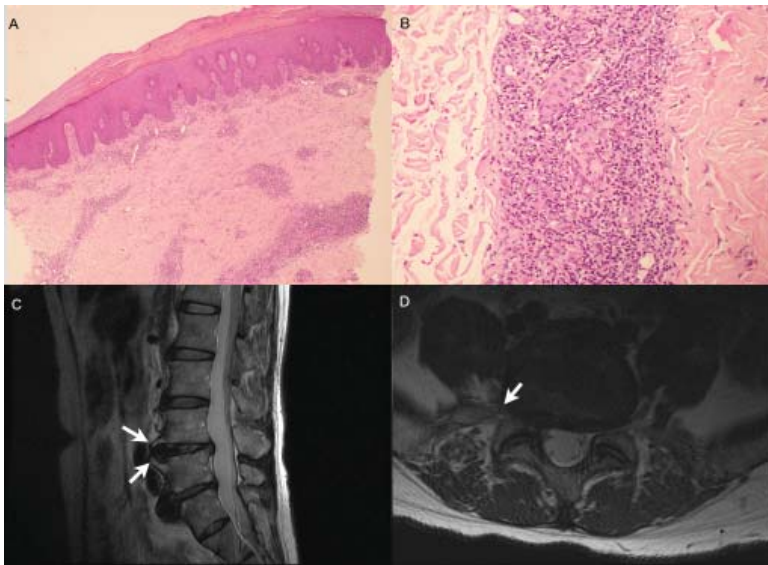


Fig 2. (A) Histopathology showing psoriasiform hyperplasia, irregular acanthosis with focal hypergranulosis (H and E, original magnification $\times 40$). (B) Lymphocytic and plasmacytic cuffing around the neurovascular bundles (H and E, original magnification $\times 200$). (C) Magnetic resonance image of the lumbosacral spine revealed degenerative disc disease affecting the lower lumbar region, worse at L4/5 region (arrows). (D) The right exiting L5 nerve root is compressed (arrow).

gene-related peptide as well.⁵ These neuropeptides mediate the cutaneous neurogenic inflammation and enhance the proliferation of fibroblasts and keratinocytes, which then lead to nodular prurigo.

Our patient was started on topical betamethasone dipropionate cream and was referred to the orthopaedic surgeon. He received a right L4/L5 transforaminal epidural steroid injection. His dysaesthesia resolved and the nodules on the right leg were significantly flatter 1 month later. The course of prurigo nodularis is often chronic, and some patients respond very poorly to the standard therapeutic modalities. The treatment of prurigo nodularis can be disappointing and frustrating for both the patients and physicians. Early identification of the underlying neuropathy in our patient led to quick relief of the symptoms and dermatitic nodules.

In conclusion, we describe a case of localised dermatitic nodules which led to a diagnosis of L5 radiculopathy. Nodular prurigo may be a secondary phenomenon due to nerve root compression and patients with localised nodular prurigo in a dermatomal distribution should be evaluated for the possibility of underlying neuropathy.

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