

## Spontaneous Regression of Cutaneous Nodular Fasciitis: A Case Report

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**Abstract**

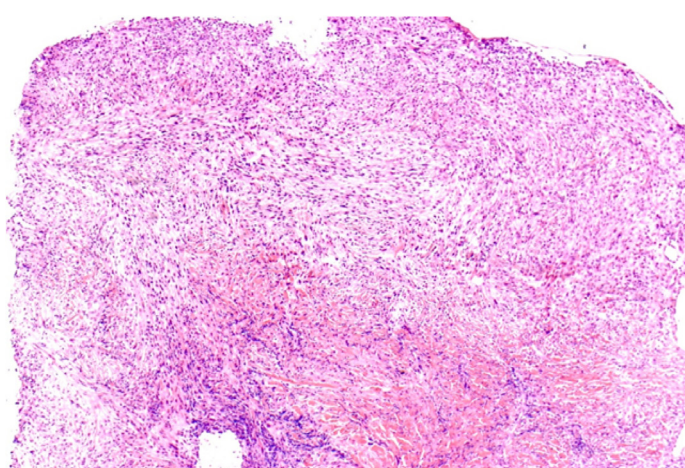
Spontaneous regression of tumours is a well known but rare phenomenon. Tumour regression has more usually been described in sporadic cases of skin, liver, testicular and renal tumours. This report describes for the first time, the immunophenotype of the dermal cellular infiltrate associated with a case of regressing nodular fasciitis, suggesting an immunologic mechanism for this often cited occurrence.

**Keywords:**

Cutaneous; Nodular Fasciitis; Regression

**Case History and Pathology**

A 70-year-old man presented with a 10mm ulcerated lump on his scalp. A 3mm biopsy was taken and microscopic examination showed a bland, spindle cell proliferation with a fascicular pattern. The cells were elongated with tapering nuclei and displayed small nucleoli; frequent normal mitoses were present (Figure 1). The stroma was mildly myxoid and the lesion extended into the subcutaneous tissue. Immunohistochemistry showed strong diffuse positivity for SMA and CD10 and a negative reaction with S100 protein, HMB45, Mel A, p63, CK5/6, CKAE1/3, desmin and caldesmon. A moderate, focal and diffuse lymphocytic infiltrate of CD3 and predominant CD8 positive lymphocytes was also present (Figure 2). Occasional CD1a positive cells as well as a few CD68 positive histiocytes were also a feature. Three weeks later the lesion area, which had clinically shrunk, was excised. The biopsy showed no evidence of residual nodular fasciitis but the dermis was elastotic/degenerated in appearance and contained a diffuse and follicular lymphocytic infiltrate (Figure 3). Centrally, the follicles contained small numbers of CD21 positive reticulum cells; the majority of the lymphocytes stained positively with CD3 and smaller numbers of CD20 positive cells were centrally present in most of the follicles. The T-cells were both CD4 and CD8 positive in approximately equal numbers. Both CD56 and CD34 were negative.



**Figure 1:** Biopsy showing spindle cells with elongated tapering nuclei and displaying small nucleoli. Frequent normal mitoses were present

**Discussion**

Nodular fasciitis is a reactive fibroblastic/myofibroblastic proliferation usually occurring in the subcutaneous tissue. Dermal nodular fasciitis is a rare occurrence [1]. According to de Feraudy and Fletcher, 25% of cases arise in the head and neck area, as did this case. Moreover, spontaneous regression is an unusual but well documented

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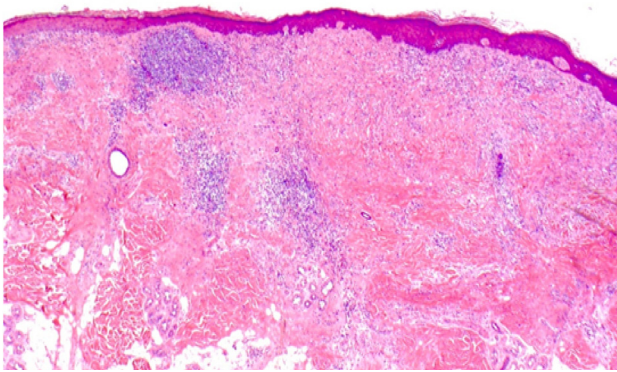
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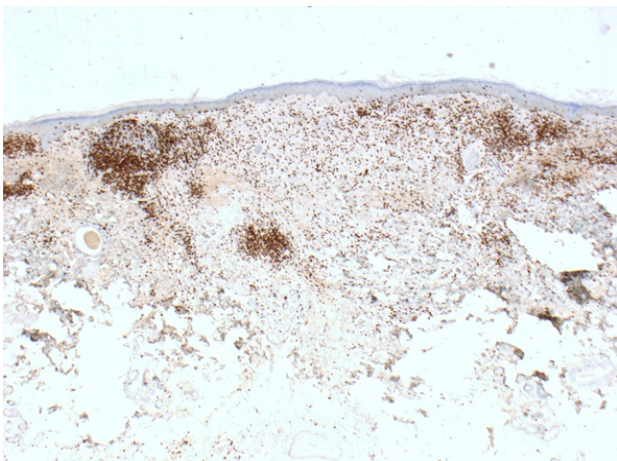
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**Figure 2:** The excised specimen showing no evidence of residual nodular fasciitis. The dermis is elastotic and degenerated in appearance and contains a focal and diffuse lymphocytic infiltrate



**Figure 3:** A moderate, focal and diffuse lymphocytic infiltrate of CD3 and predominantly CD8 positive lymphocytes was also present

occurrence in nodular fasciitis [2]. Its mechanism however, is not well established. Shawn et al cite suggestions of regression by scarring. Yanagisawa and Okada, whilst acknowledging that the mechanism is unclear at present, suggest that degeneration resulting from the temporal transition from a myxoid to a fibrous morphology, may be involved in the process [3]. Other authors agree with this premise and furthermore, report up regulation of genes encoding chemokines and cytokines in nodular fasciitis, speculating that these lesions are therefore poised to regress [4]. This case also showed degenerative features but with features of an immunological response. Nodular fasciitis therefore illustrates an immunological mechanism of regression with lesional CD4 and CD8 positive T lymphocytes, similar to the pathogenesis of regression in benign lichenoid keratosis, keratoacanthoma and halo nevus [5] atypical fibroxanthoma [6] and also in a case of trichilemmal carcinoma with spontaneous regression [7]. Consequently, spontaneous regression of nodular fasciitis is likely to be immunologically mediated and CD4 and CD8 lymphocytes appear to mediate the process similar to other skin tumours [8].

## References

1. de Feraudy S, Fletcher CDM. Intradermal nodular fasciitis. A rare lesion analyzed in a series of 24 cases *Am J Surg Pathol.* 2010; 34: 1377-1381.
2. Shawn P, Vessels BN, Sanchez RL. Dermal nodular fasciitis: Three case reports of the head and neck and literature review. *J Cutan Pathol.* 2006; 33: 378-382.
3. Yanagisawa A, Okada H. Nodular fasciitis with degeneration and regression. *J Craniofac Surg.* 2008; 19: 1167-1170.
4. de Carli ML, Fernandes KS, dos Santos Pinto Jr D, Witzel AL, Martins MT. Nodular fasciitis of the oral cavity with partial spontaneous regression. *Head Neck Pathol.* 2013; 7(1): 69-72.
5. Bayer-Garner IB, Ivan D, Schwartz MR, Tschen JA. The Immunopathology of Regression in Benign Lichenoid Keratosis, Keratoacanthoma and Halo Naevus. *J Clin Med Res.* 2004; 2(2): 89-97.
6. Stefanato CM, Robson A, Calonje JE. The histopathologic spectrum of regression in atypical fibroxanthoma. *J Cutan Pathol.* 2010; 37:310-315.
7. Furudate S, Fujimura T, Tsukada A, Numata Y, Kambayashi Y, et al. Profiles of tumor-infiltrating lymphocytes in a case of trichilemmal carcinoma with spontaneous regression. *Case Rep Dermatol.* 2012; 4(3): 215-221.
8. Elston DM. Mechanisms of regression. *J Clin Med Res.* 2004; 2: 85-88.