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Case Report

Nodular Fasciitis: A Diagnosis of Exclusion

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Abstract

Nodular fasciitis (NF) is an infiltrative or pseudosarcomatous fasciitis. It is a benign, self-limiting fibroblastic, and myofibroblastic proliferative process. It is a rare benign neoplasm most commonly affecting the soft tissues of upper extremity followed by trunk, head, and neck. Since it is an infrequent lesion, it is a diagnostically important lesion, because excision is usually the mainstay treatment. Although clinical history, examination, and imaging are important, histopathological diagnosis is the key for making the diagnosis in such lesions. It is one of the most under-diagnosed lesions and can be confused with many other lesions. Here, we present a case of a 42-year-old female patient who presented with swelling over the right side of the forehead since 2 months which gradually increased in size to the present size. A clinical diagnosis of lipoma was made and the tumor was excised for further investigation. Grossly, it was a single irregular gray white to gray brown bit of tissue measuring 0.6 × 0.5 × 0.5 cm. Microscopy showed fibroblasts of varying size and shape arranged in short bundles and fascicles with oval pale staining nuclei with prominent nucleoli. Characteristic feathery pattern was observed. The stroma showed hyalinized areas and focal myxoid areas. Few giant cells and mononuclear inflammatory cells were noted. To differentiate it from neural tumors, immunohistochemical study with S-100 and epithelial membrane antigen was done, which was negative. Smooth muscle actin showed positivity. In conclusion with the above features, NF was reported.

Key words: Epithelial membrane antigen, Feathery pattern, Fibroblasts, Forehead, Myofibroblasts, Nodular fasciitis, S-100, Smooth muscle actin, Underdiagnosed

INTRODUCTION

Nodular fasciitis (NF) is an infiltrative or pseudosarcomatous fasciitis. It is a benign, self-limiting fibroblastic, and myofibroblastic proliferative process. Most of these lesions are solitary. It was first described in 1955 by Konwaler and Weiss.[11] It can occur at any age, but most often seen in young and middle-aged adults between third and sixth decades of life with no sex predilection.[2] It is a rare benign neoplasm most commonly affecting the soft tissues of the upper extremity followed by trunk, head, and neck. It usually involves subcutaneous tissue or fascia, but can be rarely seen in intramuscular location.[3]

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CASE DETAILS

Here, we are presenting a case of a 42-year-old female patient who presented to the surgical outpatient department with a swelling over the right side of the forehead since 2 months which gradually increased in size to the present size. A clinical diagnosis of lipoma was made and the tumor was excised for further investigation. We, at histopathology unit, received the soft-tissue mass labeled as lipoma for processing.

Gross [Figure 1]

Single irregular gray white to gray brown bit of tissue measuring 0.6 × 0.5 × 0.5 cm. Entire tissue was processed. The slides were stained with routine hemotoxylin and eosin.

Microscopy [Figures 2 and 3]

Sections showed fibroblasts of varying size and shape arranged in short bundles and fascicles with oval pale staining nuclei with prominent nucleoli. Characteristic feathery pattern was observed. The stroma showed hyalinized areas and focal myxoid areas. Few giant cells and mononuclear inflammatory cells were noted. Mild mitotic activity presents.

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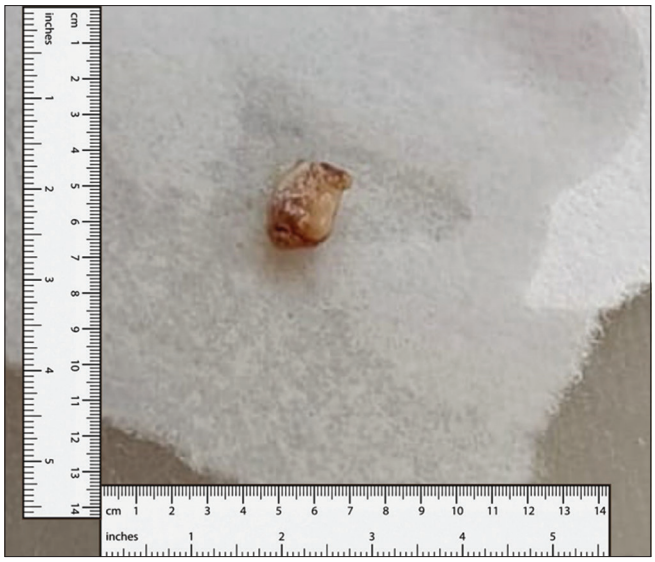

Figure 1: GROSS- Irregular gray white to gray brown bit of tissue

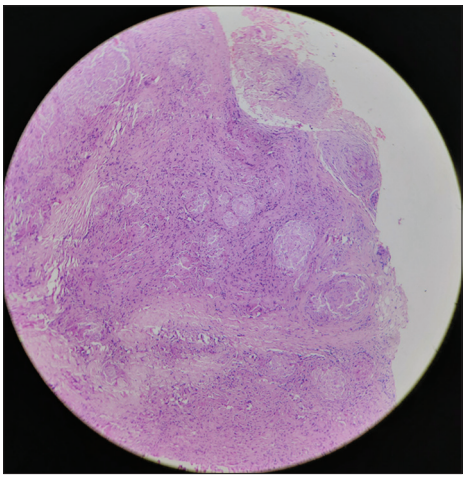

Figure 2: (Low power view) – shows fibroblasts arranged in short bundles and fascicles

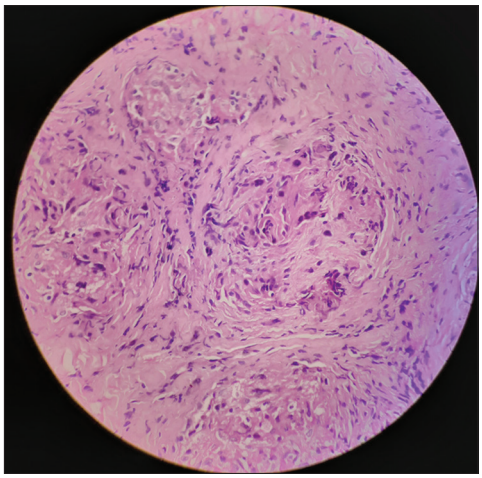

Figure 3: (High power view) – Fibroblasts showing the characteristic feathery pattern

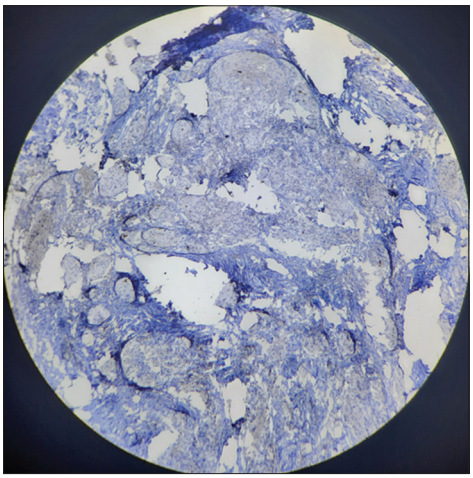

Figure 4: Immunohistochemistry with S-100 was negative

A diagnosis of NF was made.
To differentiate it from neural tumors, immunohistochemical study with S-100 [Figure 4] and epithelial membrane antigen was done, which was negative [Figure 5].
Smooth muscle actin showed positivity [Figure 6].
In conclusion with the above features, NF was reported.

DISCUSSION

Pathologically, NF has been described as a solitary, well-demarcated, and unencapsulated lesion which may be locally infiltrative and rapidly growing nodule usually of less than 3 months duration.[2,3,4,5] It tends to be mostly centered in fascia extending to sub cutaneous fat in an irregular manner but can also be dermal, subcutaneous, deep fascial, intermuscular, intramuscular, and intravascular.[2,4] It is one of the most under-diagnosed lesion and can be confused with spindle cell sarcoma, fibromatosis (desmoid tumor), fibrous histiocytoma, proliferative fasciitis, benign nerve sheath tumors, lipoma, dermatofibroma, fibrosarcoma, and pleomorphic adenoma because of similar features such as short history, rapid growth, marked infiltration, and somewhat similar histopathological picture.[3,6,7,8] The etiology is still unknown even after quite, a good number has been reported worldwide. It is considered to occur due to unusual proliferation of myofibroblasts, for which trauma or inflammatory process has been implicated as triggering factor.[3,7] Since it is an infrequent lesion, it is usually a neglected entity in the evaluation of benign tumor lesion.[9,10,11]

Immunohistochemical studies show negative staining for desmin, H-caldesmon, and nuclear localization of beta catenin and positive staining for vimentin and alpha-smooth muscle actin.[2]

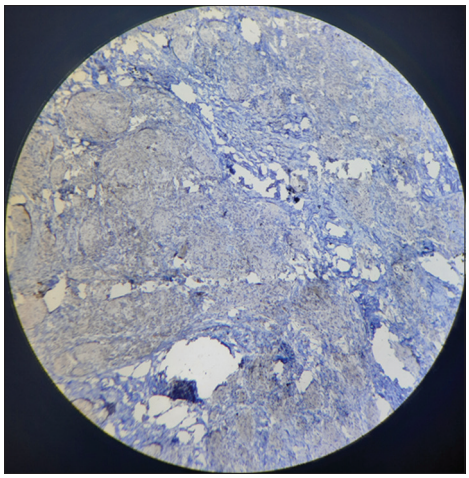

Figure 5: Immunohistochemistry with epithelial membrane antigen was negative

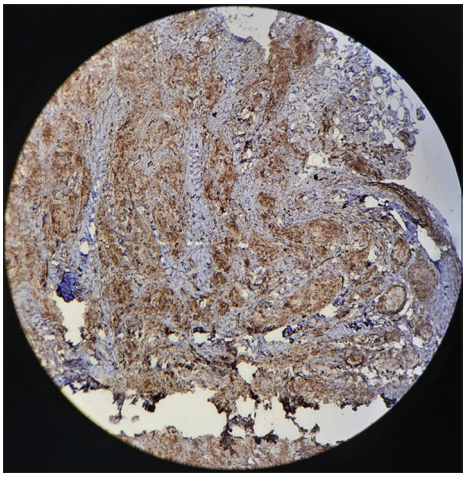

Figure 6: Immunohistochemistry with smooth muscle actin showed strong positivity (×10)

CONCLUSION

NF is an uncommom,but diagnostically important lesion and excision is usually the mainstay treatment. Although clinical history, examination, and imaging are important, histopathological diagnosis is the key for making the diagnosis in such lesions. Awareness about NF and its benign nature is essential to avoid misdiagnosis and inappropriate aggressive treatment of the patient.[3,7]

REFERENCES

1. Konwaler BE, Keasbey L,Kaplan L. Subcutaneous pseudosarcomatous fibromatosis (fasciitis).Am J Clin Pathol 1955; 25 : 241-252.
2. Muscat E, Galea J, Gafa' A, Darmanin MA, Shoukry M. Nodular fasciitis. J Pediatr Surg Case Rep 2020;61:101596.
3. Singh S, Paul S, Dhall K, Khichy S. Nodular fasciitis: A diagnostic challenge. Indian J Pathol Microbiol 2013;56:288-90.
4. Mahon JH, Folpe AW, Ferlic RJ. Intraneural nodular fasciitis: Case report and literature review. J Hand Surg Am 2004;29:148-53.
5. Dahlstrom J, Buckingham J, Bell S, Jain S. Nodular fasciitis of the breast simulating breast cancer on imaging. Australas Radiol 2001;45:67-70.
6. Dayan D, Nasrallah V, Vered M. Clinico-pathologic correlations of myofibroblastic tumors of the oral cavity: 1. Nodular fasciitis. J Oral Pathol Med 2005;34:426-35.
7. Al-Hayder S, Warnecke M, Hesselfeldt-Nielsen J. Nodular fasciitis of the face: A case report. Int J Surg Case Rep 2019;61:207–209
8. Khanna V, Rajan M, Reddy T, Alexander N, Surendran P. Nodular fasciitis mimicking a soft tissue sarcoma a case report. Int J Surg Case Rep 2018;44:29-32.
9. Montalvão PP, Michels IB, Teixeira AS, Gioppo IS, Miola AC. Nodular fasciitis in the forehead: a rare presentation. Surg Cosmet Dermatol 2020;12:43-5.
10. Reitzen SD, Dogan S, Har-El G. Nodular fasciitis: A case series. J Laryngol Otol 2009;123:541-4.
11. Cyriac MJ, Celine MI, Kurien G, Puthiode U. Nodular fasciitis. Indian J Dermatol Venereol Leprol 2004;70:239-41.

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