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Nodular Fasciitis of the Neck: Case Report

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ABSTRACT
Nodular fasciitis is an unusual benign reactive process of the soft tissues related to the fascia and characterized by fibroblastic proliferation. Its rapid growth can be deceptively similar to that of soft-tissue sarcomas. The importance of this diagnosis is primarily in its recognition, separation from a wide differential diagnosis and avoidance of unnecessary additional surgery. We report a case of a rare localization of this tumor in the neck observed in a six years old child.

Introduction

Nodular fasciitis was first described by Konwaler et al [1] in 1955.It is a benign, discrete proliferation of fibroblasts in the subcutaneous tissues often centered on the deep fascia.

Diagnosis is often a challenge because it may be confused with a malignant tumor due to its aggressive clinical behavior and histological features.

Published reports of children with nodular fasciitis in neck are limited given the rarity of this condition.

Case report

A 6-year-old boy presented with a 6 months history of a tender growing swelling of the left sub-Angulo-mandibular region. There was no history of trauma or tuberculosis infection.

Examination revealed a 40mm*30 mm firm mass, with no inflammatory sign associated. The rest of the head and the neck examination was normal. the inflammatory assessment was unremarkable. (Figure 1)

A computer tomography (CT) scan of the neck showed a left retro mandibular mass, well limited, isodense, slightly enhanced after injection of contrast product measuring 26*32*39 mm with no local invasion. (Figure 2)

A biopsy was performed, the histopathologic evaluation and the immunohistochemical profile revealed the diagnosis of nodular fasciitis. 4 mouths later after a non-regression of the tumor, a complete excision was performed. At 18 months of follow up there was no sign of recurrent disease.

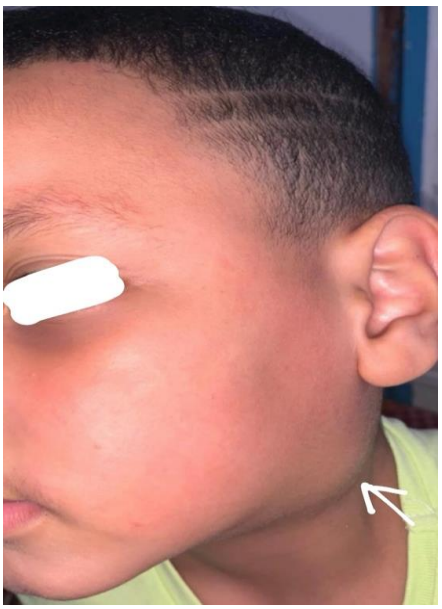

Figure 1. Mass of left sub angulo-mandibuar region

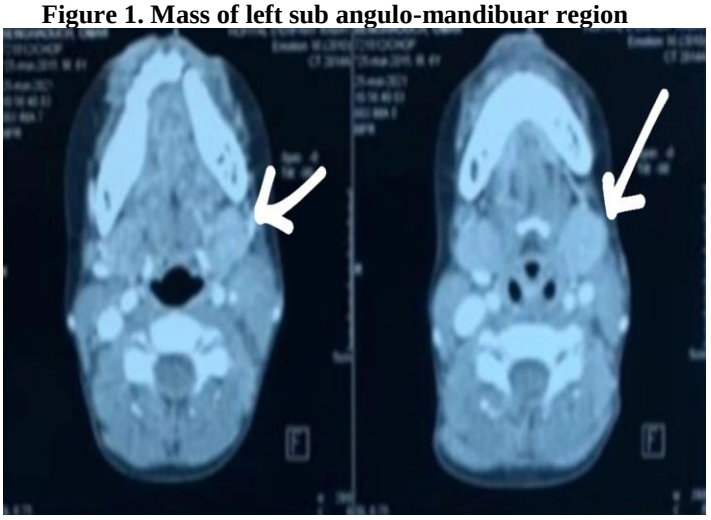

Figure 2. Axial CT scan showing the mass

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Discussion

Nodular fasciitis was first described by Konwaler et al [1] in 1955. It is a benign, discrete proliferation of fibroblasts in the subcutaneous tissues often centered on the deep fascia, is most commonly diagnosed in adults aged 20 to 40 years and has been reported to occur predominantly in males [2]. Its prevalence in children is low, presenting only 10% of reported cases in the pediatric population [3,4]. Although most commonly located on the extremities and then the trunk, it is estimated that the head and neck regions represent only 10 to 20% with only few cases reported in the neck region [5].

These benign lesions may be reactive or inflammatory processes, but their pathogenesis is still uncertain. Bernstein and Lattes [6] postulated that nodular fasciitis was an atypical form of granulation tissue perhaps brought about by minor trauma. In our case the patient didn't present any particular inciting factor or etiology to his swelling.

The most common clinical presentation of nodular fasciitis is a solitary, rapidly growing mass with frequently associated pain and tenderness. Less frequently, compression of peripheral nerve can cause numbness, paresthesia, and shooting pain [7,8].

There are 3 subtypes of nodular fasciitis according to the anatomic location: subcutaneous, intramuscular, and intermuscular (fascial) types. The subcutaneous type occurs 3–10 times more commonly than the other subtypes and presents as a subcutaneous nodule, with an average diameter of 1.2 cm, The intramuscular type is most likely to mimic a soft tissue malignancy because it is typically larger in size and deeper in location. Therefore, the clinical findings of nodular fasciitis seem to be nonspecific and do not support the establishment of a correct preoperative diagnosis.

The imaging features of nodular fasciitis are nonspecific and variable. No distinctive enhancement pattern has been reported on CT or MRI, and lesional enhancement ranges from mild to marked, homogeneous to heterogeneous, and confluent to ringlike in appearance. On ultrasonography, lesions are hypoechoic or anechoic, homogeneous, and well defined without detectable Doppler signal [9,10].

Histologically, the tumor is unencapsulated, composed of regular and uniform fibroblastic or myofibroblastic cells, without pleomorphism or nuclear hyperchromatism.

- The tumor may be highly cellular.
- A capillary network with red blood cell extravasation is also apparent.
- Mitoses may be numerous but not atypical.
- Collagen is usually sparse.
- Multinucleated giant cells of osteoclastic type are frequent.
- Myxoid forms, which are rather young, cellular forms and fibrous forms, which are more likely to be in the late stage, can be distinguished [11].

Conservative surgical excision remains the treatment of choice for these benign lesions [12]. Spontaneous regression is widely reported in the literature [13]. For this reason, a follow-up period of 4 to 6 weeks after biopsy should be considered because of the possibility of spontaneous regression of the tumor. If resolution has not occurred after this period, conservative surgical therapy should be performed [13]. After resection, recurrences are extremely rare (in 1% to 2% of cases) [14].

Conclusion

Diagnosis of nodular fasciitis is often a challenge because it may be confused with a malignant tumor due to its aggressive clinical behavior and histological features. Immunohistochemical staining can be a useful tool to aid in the diagnosis, in order to avoid an inappropriate aggressive management of this benign tumor.

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