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## **A case of NSAID- responsive and rapidly-resolving Fibrous histiocytoma**

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**Abstract**---Pediatric fibroblastic, myofibroblastic, and fibrohistiocytic tumors comprise a spectrum of neoplasms of mesenchymal origin. They account for approximately 12% of soft tissue lesions in the pediatric population, and they can be benign, intermediate or locally aggressive, and malignant subtypes. In a diffuse non-skin involving fibrous histiocytoma with inflammatory cells, a trial of said can be considered.

**Keywords**--- responsive, rapidly-resolving, fibrous histiocytoma.

**Introduction**

Pediatric fibroblastic, myofibroblastic, and fibrohistiocytic tumors comprise a spectrum of neoplasms of mesenchymal origin. They account for approximately 12% of soft tissue lesions in the pediatric population, and they can be benign, intermediate or locally aggressive, and malignant subtypes. We encountered a unique case of Rapidly-resolving benign deep fibrous histiocytoma, which presented as a painful soft tissue lesion in the temporal region that rapidly responded to NSAID therapy. Rapidly resolving benign fibrous histiocytoma is an exceedingly rare neoplasm, and NSAID- responsive fibrous histiocytoma has not been reported in the literature. We faced a significant diagnostic challenge given the nonspecific radiological and pathological features.

## Case report

A 14-year-old female presented to the outpatient clinic with a sudden onset of painful swelling in the right temporal and right periorbital region for four days. There was no history of trauma, insect bite, exposure to toxic agents, or similar swelling elsewhere. The history was uneventful for fever, ocular pain, and visual defects. The clinical examination revealed a diffuse firm swelling in the right temporal region, which was tender and adherent to the underlying temporal fascia. There was no evidence of cutaneous findings such as erythema, induration, ulcer, etc. Laboratory investigations showed normal complete blood count, CRP of less than 3 mg/L, Ig E - 297 IU/ml, CPK MM- 92 U/L. Initial non-contrast CT head revealed diffuse homogeneous non-aggressive asymmetric thickening of the right temporalis muscle without any evidence for calcifications or inflammatory changes. Subsequent MRI of the maxillofacial region demonstrated a homogeneous soft tissue lesion within the right temporalis fascia with low T2 signal; the low T2 signal reflects fibrous components. The overlying skin appeared normal. There was no evidence for aggressive features or involvement of the deeper soft tissues or osseous structures. The constellation of imaging findings suggested a benign non-aggressive soft tissue lesion with fibrous components. FNAC revealed sheets and clusters of plump spindle cells with moderate cytoplasm along with lymphocytes, plasma cells, and foreign body type multinucleated giant cells in an eosinophilic background. Occasional ganglion cells and a few muscle fibers were also seen. Due to the painful nature of the process, the patient was treated with Naproxen 500 mg BID for five days, which resulted in rapid resolution of symptoms. Ten days after the NSAID treatment, the lesion had completely resolved, and the pain had subsided. The pathologist advised biopsy of the lesion; however, due to rapid resolution of symptoms and cosmetic reasons, it was deferred.

## Discussion

Benign fibrous histiocytoma commonly manifests as skin lesions protruding into the subcutaneous tissue. In this case, it presented as a deep lesion within the temporalis fascia and periorbital region without skin involvement. Benign fibrous histiocytomas are usually painless, but in this case, it was painful and very much responsive to a short course of NSAID. FNAC showed a multitude of cells, including lymphocytes, plasma cells, spindle cells, foreign body type multinucleated giant cells, and muscle fibers. The presence of numerous inflammatory cells might explain why it was responsive to the NSAID. Differential diagnosis includes Xanthogranuloma and sarcoma; however, there were no lipid cells and pleomorphism. The diagnostic dilemma arose because of its diffuse and deep presentation, presence of marked inflammatory cells in the FNAC, and rapid resolution with the NSAID. However, upon analyzing the case collectively, we concluded it as a case of deep benign fibrous histiocytoma.

Benign fibrous histiocytoma is a benign fibrous neoplasm of mesenchymal origin (1-4). It is also known as Dermatoma, Fibroxanthoma, dermatofibroma, sclerosing hemangioma, dermal histiocytoma, histiocytoma cutis, and nodular subepidermal fibrosis. Among benign fibrous histiocytomas, the conventional type is more common and usually presents as cutaneous lesions, while the subcutaneous or

deep variant is an exceedingly rare, representing less than 1% of all benign fibrous histiocytomas (2). Cross-sectional imaging, especially MRI, is imperative when encountering pediatric soft tissue lesions. Although the findings on the MRI could be nonspecific, it can help narrow differential diagnosis by providing valuable information such as the presence of fibrous components, lack of aggressive features, extension into deeper tissue planes, etc; Ultimately tissue sampling is needed to diagnose these lesions. Overall based on our experience, we suggest that a trial of NSAIDs can be considered while encountering painful benign fibrous lesions.

### Conclusion

In a diffuse non-skin involving fibrous histiocytoma with inflammatory cells, a trial of said can be considered.



Figure 1.

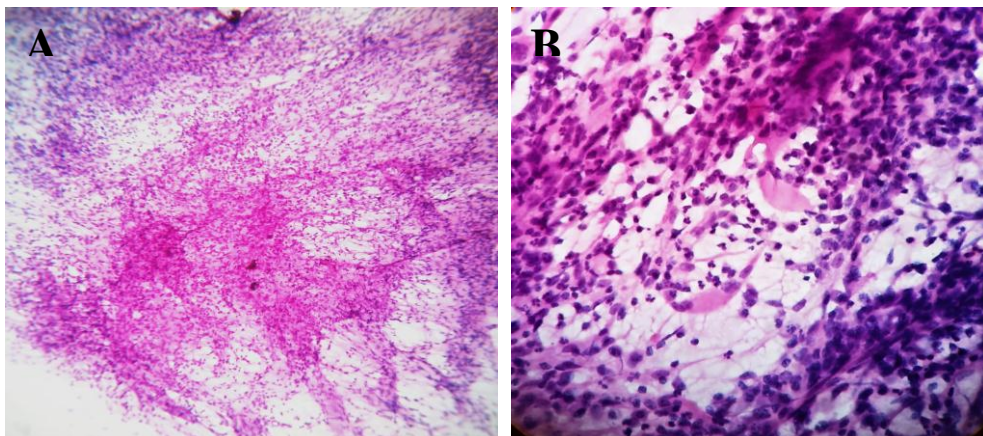


Figure 2 – A. Tissue culture like proliferating fibroblasts, B. Abundant inflammatory cells and regenerating muscle cells



Figure 3. Coronal non contrast CT head: Diffuse homogeneous soft tissue thickening involving the right temporalis muscle. Notice the lack of skin involvement

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