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Title: Cranial Fasciitis of Childhood: case report and systematic review of the disease, its pathology and treatment outcomes

Introduction: Cranial fasciitis of childhood is a rare disease that is a subset of nodular fasciitis first described in 1980 by Lauer and Enzinger based on pathologic findings. We present a case report of a one-year-old male infant with this disease, present the pathologic findings, and report the results of a systematic review of the medical literature.

Methods: A single case presentation with detailed pathologic diagnosis is presented. A systematic review of the medical literature was performed using the Medline and PubMed search engines as well as the bibliographies of the reviewed studies, with inclusion criteria being original studies on the topic of cranial fasciitis of childhood in the English language. The data extracted from the included literature were author(s), journal, year of publication, number of cases reported, age(s) of patients, location of the lesion, treatment provided, complications, pathologic findings, period of follow-up, recurrence.

Results: Twenty-eight articles met the inclusion criteria for the systematic review. They were all case reports. There were 37 patients described. All articles were published between 1980 and 2007 with only one of the 28 articles published in the plastic surgery literature. Of the patients described, 25 were male and 12 were female (M:F=2:1). The age range was 0 to 7 years, with a mean age of 2.8 years. All lesions involved the cranium with 10 lesions that were either intra-cranial or had intra-cranial extension (27%) and the remaining involving only the scalp or skin (73%). All but one of the lesions were surgically excised (97%), the remaining lesion was biopsied and treated with intralesional corticosteroids. Thirty of the lesions were lytic causing erosion of the cranium (81%). Only six of the 37 patients had a clearly identified traumatic event to the affected area prior to appearance of the lesion (16%). Follow-up data was found in 24 patients (65%) with follow-up periods ranging from 3 months to 6.5 years (mean 26.75 months/2.2 years). There was no unexpected morbidity due to surgical excision. All histologic descriptions of the lesions were consistent. There were no recurrences noted in these patients after excision.

Conclusion: Cranial fasciitis of childhood is a rare benign myofibroblastic tumor. Pathologic analysis of the lesion reveals spindle cell proliferation with immunohistochemical profile showing a heterogenous phenotypic profile in the realm of fibroblastic and myofibroblastic tumors. Despite its benign histology, cranial fasciitis can cause full-thickness erosion of the adjacent cranium. Surgical excision is the treatment of choice, with no recurrence noted after excision.