Scrotal Dermatofibroma in Children: A Case Study

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Abstract

Dermatofibroma (DF) are common benign lesions located in the dermis or subcutaneous tissue with well-defined borders, less than one centimeter, and generally seen in adults. It is extremely rare in children. In the current literature, to our best knowledge, there is not any dermatofibroma case in the scrotum of children. Hence, this case study is the first of its kind. The aim of the manuscript is present a pediatric case with a mass on scrotal in the light of the relevant literature.

Keywords: Child, differential diagnosis, dermatofibroma, biopsy

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Introduction

First described in 1992 by Kamino et al. dermatofibroma (DF) are well-defined benign lesions of less than 1 cm located in the dermis or subcutaneous tissue mostly prevalent in adults [1]. It was. It is extremely rare in children. DF is a lesion manifested as papules or nodules in the extremities. Seen only in 20% of all patients in multiple numbers, it tends usually to be of solitary nature. The dermal papule, on the surface to the skin, has as tendency to grow slowly can reach varying sizes 1-2 centimeters from a few millimeters. There is a hollow located in its middle. The aim of the present manuscript is to present a pediatric case with under his scrotal skin mass accompanied with the relevant information.

Case presentation

A one and half year-old male toddler was referred to our clinic due to scrotal swelling over time. During the physical examination, a dirty-yellowish scrotal mass of 3x2x1cm was determined at the swollen left lateral dimensions of the scrotum. Excision biopsy decided on. During the surgical intervention, the mass containing dermal and sub-dermal tissues was excised totally with a part of intact skin. Dermal and sub-dermal tissues were closed in according to an anatomical plan. During the histopathological analysis, in the dermis forming a gray zone under squamous keratinized epithelia, neoplasm with an infiltrative growth pattern, among partially well-defined collagen bundles with random sequence was reported as dermatofibroma (Figure 1, 2). No recurrence was observed during the late control made in the subsequent year.

Discussion and Conclusion

In Most of the DF cases reported in the literature are about adolescents and young women. The lesions are generally located at the shoulder, armpits, forearm, and lower extremities. Clinically, lesion symptoms are usually red-brown plaques or nodules with a diameter of 1-2 centimeters. However, a giant lesion with a 15 cm diameter has also been reported [2]. DF, also known as superficial benign fibrous histiocytoma, is generally asymptomatic despite the presence of itching and tenderness. Sometimes it has a dark brown color and can be confused with malignant melanoma. Disrupted protein kinase C activity has been reported as the underlying reason of DF tumor formation [3]. Recurrent DF has cellular aneurismal and

atypical variants [4]. Moreover, giant (> 5 cm in diameter) [10], atrophic [11], polypoid [12], satellite [13] and spread DF variations have also been reported.

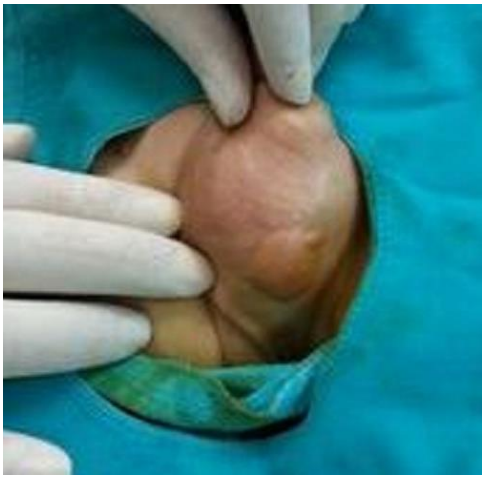

Fig 1. Preoperative image of scrotal DF

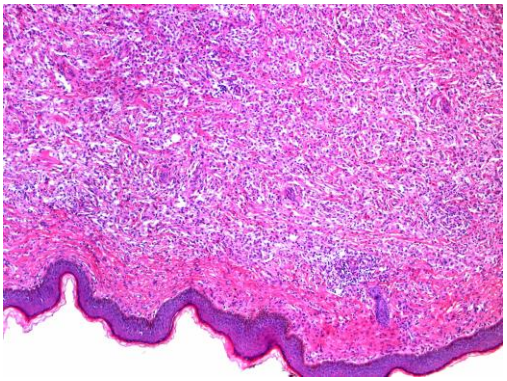

Fig 2. Dermatofibroma, neoplasm with a remnant gray zone in the dermis under keratinized multilayered squamous epithelium with an infiltrative growth pattern, among partially well-defined collagen bundles in random sequence (HEX10).

In these variants, metastasis is rare and indeterminate dermatofibromas are accepted as potentially malignant lesions. In these exceptional cases lung metastases can be seen [5]. Local recurrence rate of DF aggressive cellular, aneurismal, and atypical variants can reach up to 20% [6]. Cutaneous T-cell lymphoma, multiple myeloma [7], atopic dermatitis [8], and Crohn's disease [9], is reported to be associated with DF.

The dermis skin covering the lesions can be gray, yellow, orange, pink, red, purple, blue, brown or black, or may include a combination of hues. During palpation, hard nodules can be felt as if a little pebble fixed to the skin surface and can move freely under the skin.

The lower limb is the limb most commonly involved. In a study, genetic predisposition for is also reported [14].

Intralesional steroid injections have been tried in DF treatment. Especially in for symptomatic DF ones, cosmetically unacceptable lesions, in diagnostic uncertainty, or in subtypes, total excision including the subcutaneous fat is an ideal procedure. In the present case, surgical intervention was preferred due to indefinite diagnosis during physical examination and a

history of scrotal lesion growth over time. In the presence of plurality of multiple DF lesions, carbon dioxide laser therapy applications have been reported [15]. The probability of an aggressive subtype or another diagnostic possibility is to be excluded. Aggressive subtypes (cellular, aneurismal atypical and deep / subcutaneous) local types are reported to be recurrent up to 20% and of and rarely metastatic [16]. Diagnosis of high-risk variants can be useful. DF without significant changes in color, sizes, borders or symptoms should be kept under control through monitoring.

In conclusion, although the DF skin lesions borders seem to be infiltrating, no widespread local invasions are seen. It should not be forgotten that these lesions, most frequently seen in adults, are also, though rare, witnessed in children. As there is no report, according to our best knowledge, in the relevant literature about dermatofibroma in child scrotum, the present case is the first of its kind. Surgery should be considered as the primary choice in aggressive subtypes and suspicious lesions changing color and size rapidly during diagnosis and monitoring. Simple DF can easily be treated with simple excision with satisfying outcomes.

References

1. Kamino H, Reddy VB, Gero M, Greco MA. Dermatomyofibroma. A benign cutaneous, plaque-like proliferation of fibroblasts and myofibroblasts in young adults. J Cutan Pathol. 1992;19(2):85-93.
2. Ku LS, Chong LY, Yau KC. Giant annular dermatomyofibroma. Int J Dermatol. 2005;44(12):1039-41.
3. Płaszczyca A, Nilsson J, Magnusson L, Brosjö O, Larsson O, Vult von Steyern F, Domanski HA, Lilljebjörn H, Fioretos T, Tayebwa J, Mandahl N, Nord KH, Mertens F. Fusions involving protein kinase C and membrane-associated proteins in benign fibrous histiocytoma. Int J Biochem Cell Biol. 2014;53:475-81.
4. Kaddu S, McMenamin ME, Fletcher CD. Atypical fibrous histiocytoma of the skin: clinicopathologic analysis of 59 cases with evidence of infrequent metastasis. Am J Surg Pathol. 2002;26(1):35-46.
5. Kimyai-Asadi A, Goldberg LH, Greenberg C, Rabin V, Parry R, Batres E, Jih MH. Cellular, atypical, and indeterminate dermatofibromas: benign or malignant? Dermatol Surg. 2008;34(9):1264-71.
6. Gleason BC, Fletcher CD. Deep "benign" fibrous histiocytoma: clinicopathologic analysis of 69 cases of a rare tumor indicating occasional metastatic potential. Am J Surg Pathol. 2008;32(3):354-62.

7. Zaccaria E, Rebora A, Rongioletti F. Multiple eruptive dermatofibromas and immunosuppression: report of two cases and review of the literature. Int J Dermatol. 2008;47(7):723-7.
8. Yazici AC, Baz K, Ikizoglu G, Koca A, Kokturk A, Apa DD. Familial eruptive dermatofibromas in atopic dermatitis. J Eur Acad Dermatol Venereol. 2006;20(1):90-2.
9. Beyazit Y, Caner S, Kurt M, Kekilli M, Aydog G, Ibis M. Dermatofibroma in a patient with Crohn's disease: a novel clinical manifestation. J Crohns Colitis. 2010;4(4):490-1.
10. Requena L, Fariña MC, Fuente C, Piqué E, Olivares M, Martín L, Sánchez Yus E. Giant dermatofibroma. A little-known clinical variant of dermatofibroma. J Am Acad Dermatol. 1994;30(5 Pt 1):714-8.
11. Ohnishi T, Sasaki M, Nakai K, Watanabe S. Atrophic dermatofibroma. J Eur Acad Dermatol Venereol. 2004;18(5):580-3.
12. Kai H, Fujita H, Yamamoto M, Asahina A. Letter: Polypoid dermatofibroma with a slim pedicle: A case report. Dermatol Online J. 2012;18(3):16.
13. Curco N, Jucgla A, Bordas X, Moreno A. Dermatofibroma with spreading satellitosis. J Am Acad Dermatol. 1992;27(6 Pt 1):1017-9.
14. Samlaska C, Bennion S. Eruptive dermatofibromas in a kindred. Cutis. 2002;69(3):187-8.
15. Krupa Shankar DS, Kushalappa AA, Suma KS, Pai SA. Multiple dermatofibromas on face treated with carbon dioxide laser. Indian J Dermatol Venereol Leprol. 2007;73(3):194-5.
16. Charli-Joseph Y, Saggini A, Doyle LA, Fletcher CD, Weier J, Mirza S, Vemula S, LeBoit PE. DNA copy number changes in tumors within the spectrum of cellular, atypical, and metastasizing fibrous histiocytoma. J Am Acad Dermatol. 2014;71(2):256-63.