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Photo vignette

A perforating pilomatricomal horn on the arm of an 11-year-old girl

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Abstract

Cutaneous horns are uncommon in adults and rare in the pediatric population. Although verruca vulgaris, solar keratosis, and squamous cell carcinoma are more common entities that can present as cutaneous horns in the general population, conditions such as molluscum contagiosum, juvenile xanthgranuloma, and pyogenic granuloma have been reported causes in the pediatric population. We present a case of a perforating pilomatricoma presenting as a cutaneous horn in an 11 year old girl.

Keywords: perforating pilomatricoma, pilomatricomal horn, cutaneous horn, pilomatricoma

Case synopsis:

An 11-year-old girl was referred to dermatology clinic by her pediatrician for a growing nodule on her left arm. The lesion was first noticed approximately three months prior to presentation. At that time, initial evaluation by the patient's pediatrician reported a skin-colored to hyperpigmented papule with a black, crusted center; a 3-week course of topical antibiotics was prescribed.

Over the next two months, the lesion was noted to 'fall off' and become ulcerated with bloody discharge. Subsequently it appeared to be healing until 4 weeks prior to presentation when the overlying crust was traumatized during physical activity. Since the trauma, the patient's mother stated that the lesion began to 'grow outwards' with intermittent bloody discharge, tenderness, and itching. A 1-week course of oral clindamycin prescribed by the patient's pediatrician was completed with no improvement. There was no history of travel. There was also no personal or family history of skin cancer. Past medical history was significant for resolved hypotonia, which had an unrevealing, thorough evaluation.



Physical examination (Figure 1) of the left upper arm revealed a round, pink, exophytic nodule on a slightly erythematous base, with a yellow-brown hyperkeratotic, hard, cylindrical horn arising from its surface. The base of the horn was surrounded by serosanguinous crusting and a small area of purulence was noted on one side. After a shave biopsy to the deep dermis was performed, chalky white material was noted, consistent with calcium deposition (Figure 2).

Histologic examination (Figure 3) revealed a large nodule with some internal trabeculae, focal areas of calcification, and keratinized shadow cells. The lesion communicated with the epidermal surface with surface papillation and necrosis. Rupture was also present and associated with a suppurative granulomatous reaction. Tissue margins were involved and the patient was brought back for complete excision.

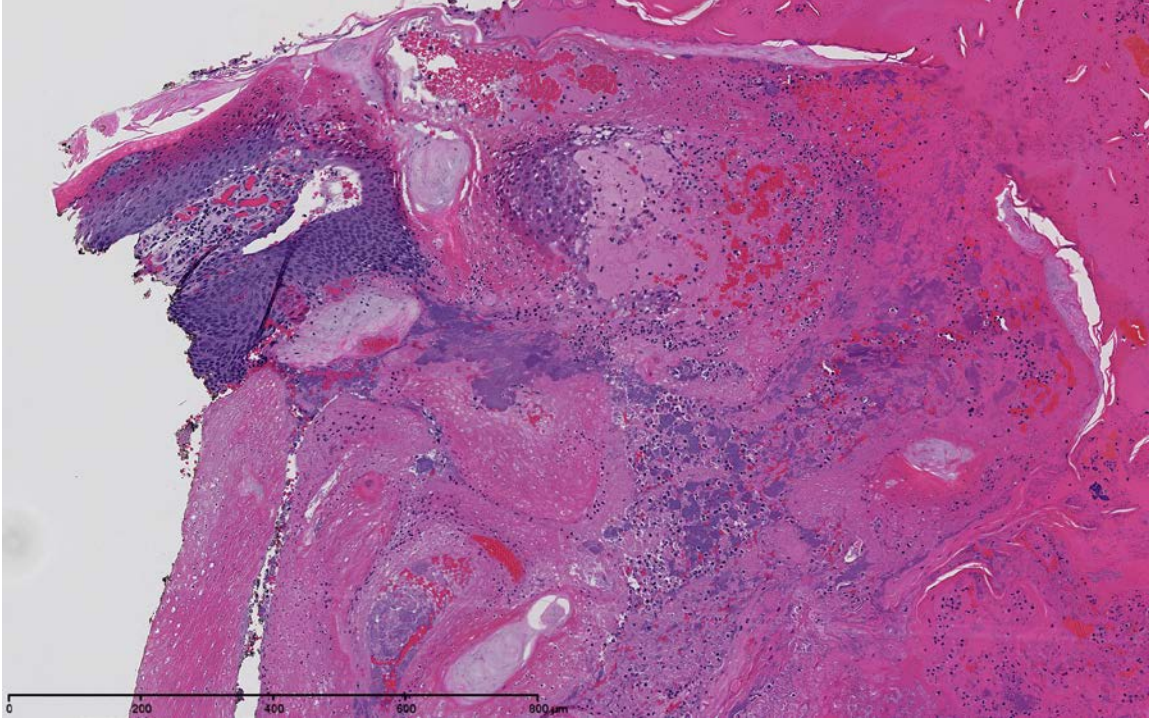


Figure 3. Low power view (4x) demonstrating subepidermal cornified nodule with calcifications.

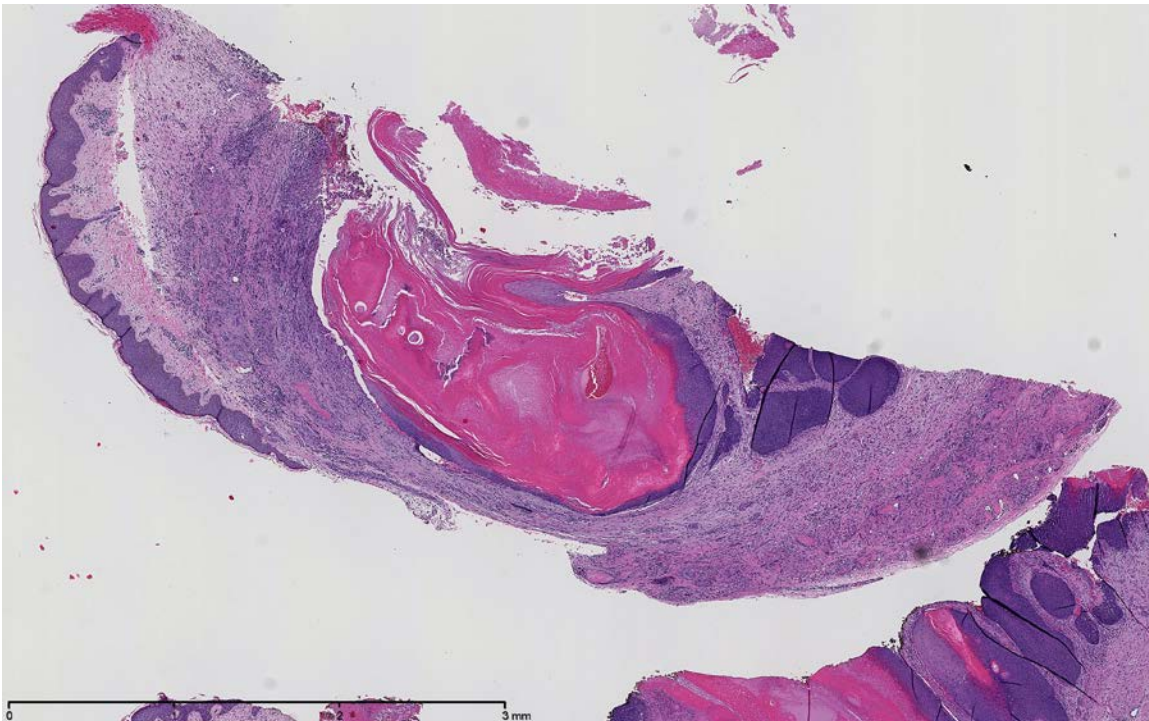


Figure 4. 10x view demonstrating rupture of the nodule through the epidermis. Note calcifications and ghost (shadow) cells.

Discussion

Cutaneous horns are considered rare in the general population and extremely rare in the pediatric population. They can arise from a variety of disease processes. In adults, a large retrospective study found 65% of cutaneous horns benign, with etiologies such as viral warts and seborrheic keratosis, among many others. Premalignant conditions, mainly solar keratosis, were responsible for 20% of cutaneous horns; 15% were caused by malignancy, most commonly squamous cell carcinoma [1]. A handful of pediatric cases have been reported, with etiologies including molluscum contagiosum, verruca vulgaris, juvenile xanthogranuloma, pyogenic granuloma, and subepidermal calcified nodule [2-8].

We present a case of a pediatric cutaneous horn derived from a pilomatricoma. Pilomatricomata are tumors that originate from the matrix cells of hair follicles. They are rare, but are more prevalent in children. Usually found on the head and neck, but also reported on the extremities, pilomatricomata are commonly described as solitary, asymptomatic, firm nodules [9].

There are 16 case reports in the literature of a pilomatricomal variant - termed perforating pilomatricoma (by Uchima et al [10]), in which tumor cells are found more superficially, usually in the mid to upper dermis and even in the epidermis [11]. This variant also shows elimination of tumor contents with reports of varying degrees of damage to the epidermis. The presence of no damage to frank ulceration seems to be dependent upon the location [12,13]. Given the history of rapid growth, as in our case, perforating pilomatricomas have a shorter time to diagnosis. They also do not seem to show an age preference [14].

Two other case reports, both in adults, specifically note the clinical description of a cutaneous horn associated with perforating pilomatricoma: one on the right arm of a 39-year-old man [11], and the other on the left upper arm of a 51 year-old man [10]. In our case we report a perforating pilomatricoma presenting as a cutaneous horn in a pediatric patient. This entity should be considered in the differential for pediatric cutaneous horns. In our case, clinically evident calcium deposition within the skin also provided a clue to the diagnosis.

References

1. Yu RC, Pryce DW, MacFarlane AW, Stewart TW. A histopathological study of 643 cutaneous horns. *British Journal of Dermatology* 1991;124: 449–452. [PMID:2039721]
2. Thappa DM, Laxmisha C. Cutaneous horn of eyelid. *Indian Pediatr*. 2004;41(2):195. [PMID:15004310]
3. Sim JH, Lee E. Molluscum contagiosum presenting as a cutaneous horn. *Ann Dermatol* 2011;23:262-263.
4. Gould JW, Brodell RT. Giant cutaneous horn associated with verruca vulgaris. *Cutis* 1999;64:111-112. [PMID:10467504]
5. Arribas MP, Betloch I, Soro P, Alfonso R. Giant cutaneous horn on the forearm of a neonate. *Juvenile xanthogranuloma. Pediatr Dermatol*. 2013 Mar-Apr;30(2):261-2. [PMID:23461689]
6. Souza LN, Martins CR, De Paula MB. Cutaneous horn occurring on the lip of a child. *Int J Paediatr Dent*. 2003;13:365-367. [PMID:12924994]
7. Gerding H, Hailemariam S, Ohlinger W, Timmermann M. Cutaneous horn of the eyelid in a 4-year-old child. *Kil Monbl Augenheilkd* 2010;227(4):319-20. [PMID:20408085]
8. Ferry AP. Subepidermal calcified nodules of the eyelid. *Am J Ophthalmol*. 1990;15:85-88. [PMID:2297037]
9. Moehlenbeck FW. Pilomatricoma (Calcifying epithelioma). *Arch Dermatol* 1973;108:1-2. [PMID:4745286]
10. Uchiyama N, Shindo Y, Saida T. Perforating pilomatricoma. *J Cutan Pathol* 1986;13:312-318. [PMID:3771876]
11. De la Torre JP, Saiz A, Garcia-Arpa M, Rodriguez-Peralto JL. Pilomatricomal horn: a new superficial variant of pilomatricoma. *Am J Dermatopathol*. 2006 Oct;28(5)426-8. [PMID: 17012919]
12. Miura T, Yamamoto T. Perforating pilomatricoma with anetodermic epidermis in an adolescent with lymphoma. *Pediatr Dermatol*. 2013 Jul-Aug;30(4):e68-9. [PMID:22937738]
13. Ohnishi T, Makamura Y, Watanabe S. Perforating pilomatricoma in a process of total elimination. *J Am Acad Dermatol*. 2003 Aug;49(2 Suppl Case Reports)S146-7. [PMID:12894105]
14. Kang HY, Kang WH. Perforating pilomatricoma resembling keratoacanthoma. *Eur J Dermatol*. 2000 Jan-Feb;10(1):63-4. [PMID:10702010]