A verrucous lesion of the eyebrow

Yulia Gray, Sandrivette Johnson[1], Dennis C. Polley[1], Dirk M. Elston

Ackerman Academy of Dermatopathology, New York, [1]Polley Clinic of Dermatology and Dermatologic Surgery, Wilson, North Carolina, New York, USA

A 25 year-old female presented with a verrucous lesion on her medial part of her right eyebrow [Figure 1]. A clinical diagnosis of a viral wart was made and the lesion was biopsied. The histologic sections demonstrated an endo-exophytic lesion with squamous eddies and no cytologic atypia [Figures 2 and 3]. Immunoperoxidase staining for HPV was negative.

WHAT IS YOUR DIAGNOSIS?

Access this article online

Website: www.idoj.in

DOI: 10.4103/2229-5178.182370

Quick Response Code:

Address for correspondence:
Dr. Dirk M. Elston, Professor and Chairman, Department of Dermatology and Dermatologic Surgery Medical University of SC; MSC 578 135 Rutledge Avenue; 11th Floor, Charleston, SC 29425-5780, USA.
E-mail: elstond@musc.edu

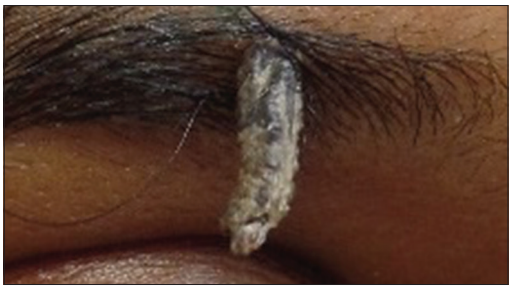

Figure 1: A 25-year-old female with a verrucous lesion on the right medial eyebrow

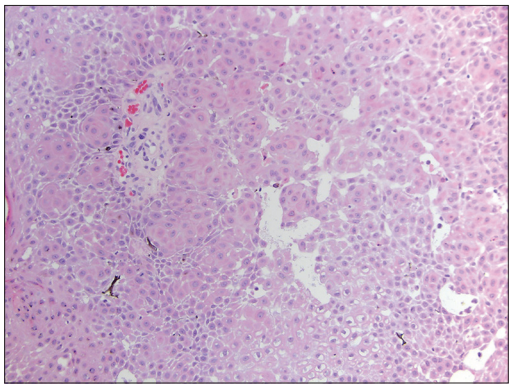

Figure 3: Numerous squamous eddies and no cytologic atypia. (H and E, ×400)

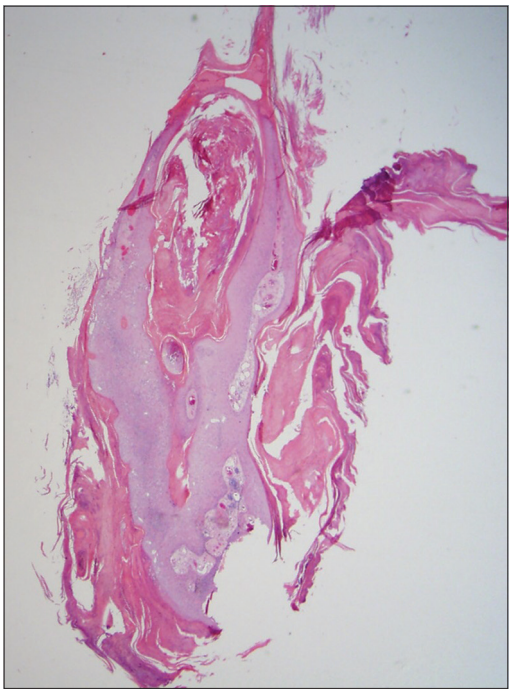

Figure 2: Endo-exophytic lesion with marked hyperkeratosis. (H and E, ×100)

Cite this article as: Gray Y, Johnson S, Polley DC, Elston DM. A verrucous lesion of the eyebrow. Indian Dermatol Online J 2016;7:206-7.

ANSWER

Inverted follicular keratosis.

DISCUSSION

Described by Helwig in 1954, inverted follicular keratosis (IFK) is a benign lesion with a histologic appearance that can be mistaken for squamous cell carcinoma. IFK typically occurs in middle-aged and older individuals, more often in men. The face is the most common site, especially the upper lip and cheek, followed by the nose, chin, forehead, eyelid, and eyebrow. IFK has also been found on the scalp, temple, conjunctiva, neck, trunk, extremities, vulvar skin, and scrotum.[1-6] The vulvar and scrotal lesions may have been related to shaving injuries of hair follicles.[5,6] Clinically, IFK is frequently diagnosed as verruca vulgaris. Other clinical impressions include basal cell carcinoma, keratoacanthoma, and squamous cell carcinoma.[1-3,5] IFK can present as a cutaneous horn, even a massive one.[1-3,7] Dermoscopic and reflectance confocal microscopy features of IFK have been described and may be helpful in its diagnosis.[8]

Histologically, IFK is a circumscribed lesion demonstrating exophytic as well as endophytic growth with papillomatosis, hyperkeratosis, and parakeratosis. There are abundant squamous eddies, and cytologic atypia with mitotic activity may or may not be present. IFK can be mistaken for squamous cell carcinoma, especially on superficial biopsy.[1-3,5,6,9] IFK has histologic similarities to irritated seborrheic keratosis, keratoacanthoma, trichilemmoma, and verruca vulgaris, but most studies have found IFK to be consistently negative for HPV by immunohistochemistry, in situ hybridization and polymerase chain reaction.[1-3,10-14]

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Mehregan AH. Inverted follicular keratosis. Arch Dermatol 1964;89:229-35.
2. Mehregan AH. Inverted follicular keratosis is a distinct follicular tumor. Am J Dermatopathol 1983;5:467-70.
3. Azzopardi JG, Laurini R. Inverted follicular keratosis. J Clin Pathol 1975;28:465-71.
4. Cakmak SS, Unlu MK, Bilek B, Buyukbayram H, Sakalar YB. Conjunctival inverted follicular keratosis: A case report. Jpn J Ophthalmol 2004;48:497-8.
5. Roth LM, Look KY. Inverted follicular keratosis of the vulvar skin: A lesion that can be confused with squamous cell carcinoma. Int J Gynecol Pathol 2000;19:369-73.
6. Mysore V, Rathnakar KS. Multiple nodules over scrotum in a young man. Gulf J Dermatol Venerol 2002;9:58-59.
7. Soylu L, Akcali C, Aydogan LB, Ozsahinoglu C, Tuncer I. Inverted follicular keratosis. Am J Otolaryngol 1993;14:247-8.
8. Armengot-Carbo M, Abrego A, Gonzalez T, Alarcon I, Alos L, Carrera C, *et al.* Inverted follicular keratosis: Dermoscopic and reflectance confocal microscopic features. Dermatology 2013;227:62-6.
9. Tan KB, Tan SH, Aw DC, Jaffar H, Lim TC, Lee SJ, *et al.* Simulators of squamous cell carcinoma of the skin: Diagnostic challenges on small biopsies and clinicopathological correlation. J Skin Cancer 2013;2013:752864.
10. Mehregan AH, Nadji M. Inverted follicular keratosis and verruca vulgaris. An investigation for the papillomavirus common antigen. J Cutan Pathol 1984;11:99-102.
11. Asadi-Amoli F, Alain A, Heidari AB, Jahanzad I. Detection of human papillomavirus infection in inverted follicular keratosis lesions of the eyelid by immunohistochemistry method. Acta Med Iran 2009;47:435-8.
12. Ruhoy SM, Thomas D, Nuovo GJ. Multiple inverted follicular keratosis as a presenting sign of Cowden's syndrome: Case report with human papillomavirus studies. J Am Acad Dermatol 2004;51:411-5.
13. Stierman S, Chen S, Nuovo G, Thomas J. Detection of human papillomavirus infection in trichilemmomas and verrucae using *in situ* hybridization. J Cutan Pathol 2010;37:75-80.
14. Kambiz KH, Kaveh D, Maede D, Hossein A, Nessa A, Ziba R, *et al*. Human papillomavirus deoxyribonucleic acid may not be detected in non-genital benign papillomatous skin lesions by polymerase chain reaction. Indian J Dermatol 2014;59:334-8.