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A Large Unilateral Temporal Pinguecula in a Young Pediatric Patient

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Abstract

***Purpose:** To report a case ofpinguecula in an otherwise healthy pediatric patient with no significant risk factors.*

***Observations:** A 7-year-old male with no significant past medical history presented with a unilateral, painless lesion of theleft temporal conjunctiva accompanied by injection and chemosis for the past few months.*

***Conclusions and Importance:** Although extremely rare in the pediatric population, pinguecula should be considered in the differential diagnosis for patients presenting with conjunctival lesions. Patients should be counseled on the importance of sun protection and managed symptomatically to prevent complications and progression.*

Keywords: *pinguecula; pediatric; sun exposure; conjunctiva.*

Introduction

Pingueculae are common, benign, raised, yellowish-whitedegenerative lesions of the bulbar conjunctiva. They are typically bilateral, most commonly found near the limbus within the interpalpebral fissure, more often on the nasal side than the temporal side[1]. They are thought to arise from environmental irritants such as wind, dust and ultraviolet light exposure. Thus, there is increased prevalence with increasing age and/orchronic occupational exposures to outdoor environments[2,3].Very few cases of pinguecula have been reported in children, with the majority of thoseimplicatingother risk factors, and mostly in countries outside of the United States where sun exposure is more prevalent[4-6].To the authors' best knowledge, there are no reports in the literature specifically on pediatric pinguecula. Here, we report anunusual case of aunilateral temporal pinguecula observed in a pediatric patientwith no obvious known risk factors.

Case Report

A 7-year-oldCaucasian male with no significant past medical history presented to the pediatric ophthalmology clinic at Johns Hopkins Wilmer Eye Institute with a history of a red spot on the white of his left eye for the past four to six months. The patient reported slightly more itching in the left eye compared to the right, but denied any pain,irritation, discharge, or changes in vision. His parents reported noticingthe spot changein colorfrom red to green or yellow several times, after which it would heal and come back.They also felt that ithad grown a little in size since it first appeared. The patient denied any trauma to the eye. Review of systems was also negative.

On examination, visual acuity without correction was 20/20 OD and 20/20-2 OS. There was no relative afferent pupillary defect. Visual field testing and ocular motility were both full. Ocular tonometry was soft to palpation bilaterally. Slit-lamp examination showed trace chemosis in the left eyeaccompanied by 1+ injection overlying a temporal,juxtalimbal, conjunctival lesion measuring 3mm in height by 4.5 mm in length with no pigmentation. A single feeder vessel from the inferotemporal quadrant was noted. The right conjunctiva was clear, and the corneas were clear bilaterally (Figure 1).

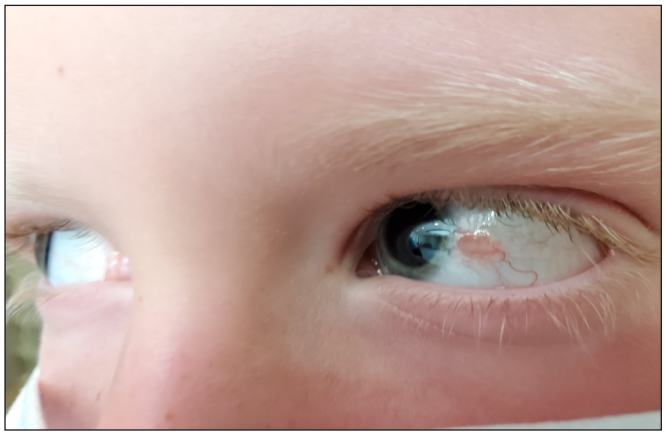

Figure 1. *A raised, juxtalimballesion on the left temporal conjunctiva measuring 3 mm in height by 4.5 mm in length with no pigmentation and a single feeder vessel from the inferotemporal quadrant.*

Based on the history and ophthalmological exam, the patient was diagnosed with a pinguecula. The patient was counseled on the importance of sun protectionand advised to use artificial tears for comfort. No other treatment was required due to the benign nature of the condition. The patient was scheduled for an annual follow-up appointment butinstructed to return sooner if there are any changes.

Discussion

Although the pathogenesis of pinguecula remains incompletely understood, there appears to be a strong correlation with exposure to ultraviolet light[7]. There is higher prevalence in areas of the world with increased ultraviolet irradiation and in populations with chronic occupational exposure[3,4]. Increased prevalence is alsoobserved with increasing age regardless of geographic and ethnic variations across different populations[8-11]. This isprimarily attributed to cumulative exposure tosunlight over time[4].Furthermore, the predilection of pinguecula for the nasal side of the conjunctiva can also be explained byultraviolet light entering the eye focusingpredominantly to the area of the nasal limbus[7].Therefore, in childrenwho have had much lesscumulative sunexposure compared to older adults, pingueculaeare rarely observed, even less so in the temporal quadrant as in our patient!In fact, the few cases of pinguecula ever reported in pediatric patients were either in parts of the world with intense ultraviolent irradiation[4] or in association with other risk factors for pinguecula formation, including contact lens use and systemic disease such as diabetes mellitus, thyroid orbitopathy and Gaucher disease[5,6,12,13]. Our case is unique in its presentation at a less common locationof the eye in an otherwise healthy child with no obvious risk factors.

Diagnosis of pinguecula isprimarily clinical with slit-lampexamination,althoughrecentlydevelopedanterior segment optical coherence tomography can be used to aid visualization in less typical cases[14]. The clinical course is usually unremarkable, with most lesions either being asymptomatic or causingmild dry eye symptoms due to the raised pinguecula interfering with the normal spread oftear film[15]. Occasionally, the pinguecula may become inflamed and cause increased burning, tearing and hyperemia[16]. Lubrication with artificial tears is helpful for the management of mild irritation while a short course of topical corticosteroids can be used for more severe inflammation[16].More often, the concerns are cosmetic, for which surgical excision or argon laser photoablationmay be considered[17].

Despite the benign nature of the pinguecula itself, patientsshould be counseled on the importance of sun protection to minimize further sun damage to the eye. It is hypothesized that continuedexposure may lead to progression of the pinguecula into a pterygium, which may encroach on the cornea and block the visual axis[15,16]. Whilethe exact progression remains controversial, exposure to ultraviolet radiation in childhood has been shown to be a predisposing factor to a variety of ocular pathologies, including cataracts, age-related macular degeneration, and ocular malignancies[4].An association between the susceptibility of eyes and skin to ultraviolet exposure has also been indicated[18]. Therefore, diagnosis of a pingueculain a younger patient could suggestincreased susceptibility toultraviolet-induced degenerative changes andprovide an opportunity to implement

preventative measures before more serious conditions develop.

Conclusions

We present the rare case of a unilateral temporal pinguecula in a pediatric patient with no significant risk factors. Despite being rare in this population, pinguecula should be considered in the differential diagnosis and possibly suggests an increased sensitivity to ultraviolet irradiation. Patients should be counseled on the importance of sun protection and managed symptomatically to prevent complications from both the pinguecula itself and ultraviolet exposure in general.

Patient Consent

Consent was obtained prior to obtaining photo with no identifiable features. This report does not contain any personal information that could lead to the identification of the patient.

References

1. Sugar S, Kobernick S. The Pinguecula*. *Am J Ophthalmol.* 1959;47(3):341-345. https://www.sciencedirect.com/science/article/pii/S0002939414765353. doi:https://doi.org/10.1016/S0002-9394(14)76535-3.
2. Taylor HR, West SK, Rosenthal FS, Munoz B, Newland HS, Emmett EA. Corneal Changes Associated With Chronic UV Irradiation. *Archives of Ophthalmology.* 1989;107(10):1481-1484. https://doi.org/10.1001/archopht.1989.01070020555039. Accessed Apr 8, 2021. doi:10.1001/archopht.1989.01070020555039.
3. Nakaishi H, Yamamoto M, Ishida M, Someya I, Yamada Y. Pingueculae and pterygia in motorcycle policemen. *Ind Health.* 1997;35(3):325-329. Accessed Apr 8, 2021. doi:10.2486/indhealth.35.325.
4. Ooi J, Sharma NS, Papalkar D, et al. Ultraviolet Fluorescence Photography to Detect Early Sun Damage in the Eyes of School-Aged Children. *Am J Ophthalmol.* 2006;141(2):294-298. https://www.sciencedirect.com/science/article/pii/S0002939405010147. doi:https://doi.org/10.1016/j.ajo.2005.09.006.
5. Carbone A, Petrozzi C. Gaucher's Disease: Case Report with Stress on Eye Findings. *Henry Ford Hospital Medical Journal.* 1968;16(1):55-60. https://scholarlycommons.henryford.com/hfhmedjournal/vol16/iss1/7. Accessed Apr 8, 2021.
6. Mimura T, Usui T, Mori M, et al. Pinguecula and contact lenses. *Eye (Lond).* 2010;24(11):1685-1691. Accessed Apr 8, 2021. doi:10.1038/eye.2010.120.
7. Archila EA, Arenas MC. Etiopathology of Pinguecula and Pterigium. *Cornea.* 1995;14(5):543. https://journals.lww.com/corneajrnl/Citation/1995/09000/Etiopathology_of_Pinguecula_and_Pterigium.18.aspx. Accessed Apr 9, 2021.
8. Panchapakesan J, Hourihan F, Mitchell P. Prevalence of pterygium and pinguecula: the Blue Mountains Eye Study. *Aust N Z J Ophthalmol.* 1998;26 Suppl 1:2. Accessed Apr 8, 2021. doi:10.1111/j.1442-9071.1998.tb01362.x.
9. Asokan R, Venkatasubbu RS, Velumuri L, Lingam V, George R. Prevalence and associated factors for pterygium and pinguecula in a South Indian population. *Ophthalmic Physiol Opt.* 2012;32(1):39-44. Accessed Apr 8, 2021. doi:10.1111/j.1475-1313.2011.00882.x.
10. VISO E, GUDE F, RODRIGUEZ-ARES MT. Prevalence of pinguecula and pterygium in a general population in Spain. *Eye (London).* 2011;25(3):350-357. http://dx.doi.org/10.1038/eye.2010.204. doi:10.1038/eye.2010.204.
11. FOTOUHI A, HASHEMI H, KHABAZKHOOB M, MOHAMMAD K. Prevalence and risk factors of pterygium and pinguecula: the Tehran Eye Study. *Eye (London).* 2009;23(5):1125-1129. http://dx.doi.org/10.1038/eye.2008.200. doi:10.1038/eye.2008.200.
12. Mimura T, Obata H, Usui T, et al. Pinguecula and diabetes mellitus. *Cornea.* 2012;31(3):264-268. Accessed Apr 8, 2021. doi:10.1097/ico.0b013e3182254170.
13. Ozer PA, Altiparmak UE, Yalniz Z, Kasim R, Duman S. Prevalence of pinguecula and pterygium in patients with thyroid orbitopathy. *Cornea.* 2010;29(6):659-663. Accessed Apr 8, 2021. doi:10.1097/ICO.0b013e3181c296ab.

14. Lim S. Clinical applications of anterior segment optical coherence tomography. *J Ophthalmol.* 2015;2015:605729. Accessed Apr 9, 2021. doi:10.1155/2015/605729.

15. Küçük E, Yılmaz U, Zor KR. Corneal Epithelial Damage and Impaired Tear Functions in Patients with Inflamed Pinguecula. *J Ophthalmol.* 2018;2018. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6234435/. Accessed Apr 9, 2021. doi:10.1155/2018/2474173.

16. Jaros PA, DeLuise VP. Pingueculae and pterygia. *Survey of Ophthalmology.* 1988;33(1):41-49. Accessed Apr 7, 2021. doi:10.1016/0039-6257(88)90071-9.

17. Shin JY, Khang MH, Han YK, Kwon J. Case of argon laser photoablation of pinguecula. *Clinical & Experimental Ophthalmology.* 2010;38(7):735-736. https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1442-9071.2010.02308.x. Accessed Apr 9, 2021. doi:https://doi.org/10.1111/j.1442-9071.2010.02308.x.

18. Mitchell P, Smith W, Wang JJ. Iris color, skin sun sensitivity, and age-related maculopathy: The blue mountains eye study. *Ophthalmology.* 1998;105(8):1359-1363. https://www.sciencedirect.com/science/article/pii/S0161642098980137. Accessed Apr 9, 2021. doi:10.1016/S0161-6420(98)98013-7.stylefix

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