patient's visual prognosis for the right eye was not expected to improve past NLP. The patient's right eye was eviscerated due to the risk of sympathetic ophthalmia with canthal reconstruction and temporary tarsorrhaphy on postembolization week 8.

Conclusions

Pseudoaneurysms occur when there is a partial disruption in the wall of a blood vessel, causing a hematoma that is either contained by the vessel adventitia or the perivascular soft tissue. The risk of rupture of a pseudoaneurysm is significantly higher than that of an aneurysm due to less support from the vessel wall. In this case, based on the proximity of the bullet fragment to the pseudoaneurysm, it would seem that the projectile itself was likely responsible for disruption of the ophthalmic artery wall. This is supported by studies that have shown that penetrating trauma due to gunshot wounds are typically produced by relatively low-velocity bullets, which cause vessel injury by "direct contact with the bullet or its fragments."[4,5]

As this case illustrates, a pseudoaneurysm can be misidentified as an orbital hemorrhage on a standard CT. Also, the resolution of the pseudoaneurysm and associated proptosis is slower than that of a typical orbital hemorrhage. This is due to the time required for the blood within the embolized artery to resorb. In patients without injury to the optic nerve and/or ocular structures, management may be complicated and require interim intervention to alleviate any orbital compartment syndrome while waiting for the pseudoaneurysm to dissipate after intervention. Additionally, without intervention there is possibility of aneurysm rupture and subsequent vision-threatening sequela. In cases where the compressive effects of an aneurysm/pseudoaneurysm cannot be controlled by decompression, it may be possible to perform direct puncture with thrombin or coil embolization under CT or ultrasound guidance, sparing complete occlusion of the ophthalmic artery.[6]

Although rare, a pseudoaneurysm of the ophthalmic artery should be considered in any case of penetrating orbital trauma, especially those with significant proptosis and imaging evidence of an orbital process. An angiogram of the orbital vasculature should be considered if the orbital process shows radiographic or clinical progression. A treatment plan should be formulated in conjunction with interventional radiology consultation.

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Craig N. Czyz, DO, FACOS, FACS,[*,†,‡] Phelan G. Piehota, DO,[‡] Andrew T. Strand, DO,[‡] Moni Stein, MD[§]

[*]Section of Oculofacial Plastic and Reconstructive Surgery, Division of Ophthalmology, Ohio University/Doctors Hospital, Columbus, Ohio; [†]Department of Ophthalmology, Oral and Maxillofacial Surgery, Grant Medical Center, Columbus, Ohio; [‡]Division of Ophthalmology, Ohio University/Doctors Hospital, Columbus, Ohio; [§]Department of Radiology, Grant Medical Center, Columbus, Ohio.

Correspondence to:
Craig N. Czyz, DO: dsp4000@aol.com

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Canaliculops: clinical examination

Canaliculops (or canaliculocele) is an ectasia of the canalicular wall, mostly idiopathic in origin. However, the role of trauma and inflammation as the initial insult to canalicular system has been suggested by some authors.[1] Being a rare condition, most ophthalmologists are unfamiliar with the condition with consequent high likelihood of misdiagnosis or sometimes overdiagnosis.[2]

A 42-year-old male patient presented to the outdoor department with a painless swelling in the right lower lid, which had been present for the previous 2 months (Fig. 1). There was no itching, watering, or discharge. Three months earlier, the patient had experienced pain and redness in the region devoid of any discharge. It was documented as lower lid canaliculitis by an ophthalmologist and had resolved completely over a few days on conservative treatment with topical antibiotics and oral

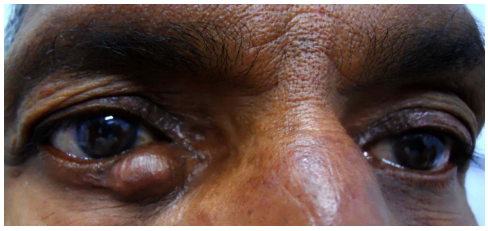

Fig. 1—Pea-sized, painless swelling of right lower lid near medial canthus.

analgesics. At presentation, best-corrected visual acuity in both eyes was 6/6 with glasses. On examination, the swelling was measured about 10 mm, round, pea-sized, fluctuant, and bulging more toward the conjunctival side. The overlying skin appeared normal. However, the conjunctival side had a white-opaque surface with faint bluish hue (Fig. 2). The punctum seemed to be involved by the swelling, yet no stenosis was present. There was no redness, tenderness, discharge, or epiphora. No regurgitation of fluid (water/mucus/pus) was noted from the punctum on pressing the swelling. Fluorescein dye disappearance test result was normal and comparable with the fellow eye. On syringing through the lower punctum, free flow of fluid in throat was felt, with absence of regurgitation, establishing the patency of the lacrimal drainage system. No change in the size of the swelling was noted before, during, or after irrigation. We performed a transillumination test in a dark room, which was positive with brilliant transillumination confirming the clear, cystic nature of the lesion (Fig. 3). Marsupialization of the cyst was done through the conjunctival side. The medial cut end of the canaliculus was clearly visible in the wound, which implied that the cyst was of canalicular origin. A specimen of the cyst wall was sent for histopathology, which revealed normal canalicular epithelium (i.e., nonkeratinized, stratified squamous epithelium; no goblet cell) without any inflammatory infiltrate. Hence, a diagnosis of left lower lid canaliculops was made. No epiphora or recurrence was seen during follow-up.

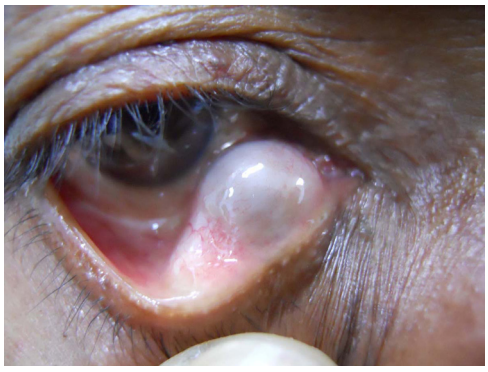

Fig. 2—Bulging of white-opaque conjunctiva with faint bluish hue on the swelling.

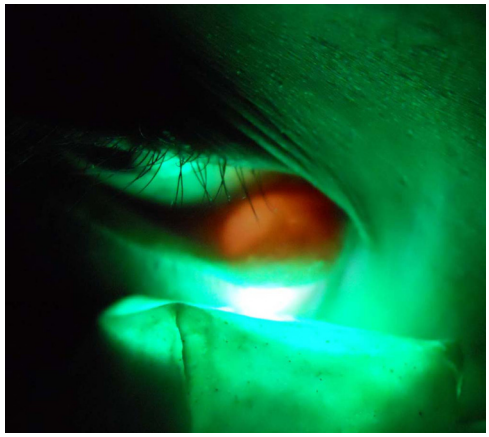

Fig. 3—Positive transillumination suggesting clear content inside the cyst.

On the basis of history and appearance, our case fits the classical presentation of canaliculops as described in the literature.[2] Negative history of discharge or canaliculoliths rules out the possibility of infectious canaliculitis in this case. Hence, the possibility of idiopathic origin here is more likely.

The hypothesis of "ball-valve mechanism" caused by redundancy of hyperplastic epithelium of canaliculus and "congenital weakness" of a diffuse segment of canalicular wall reflects the underlying functional problem.[1] Yet, surprisingly, the lacrimal system remains patent both anatomically and functionally, as demonstrated in this case by syringing and dye disappearance test, respectively. Similarly, patency of punctum is not an unusual finding, even though rare instances of punctal stenosis or aplasia have been mentioned in the literature.[2,3]

Expression of discharge with gentle pressure on the swelling is a critical indicator of the 2 close differentials of cannaliculops, namely, canaliculitis or diverticulum of canaliculus.[4] The absence of this sign in our case easily excludes these 2 possibilities.

Our aim is to emphasize simple clinical tests to identify this condition in any patient presenting with medial eyelid swelling. Positive fluctuation test could recognize the cystic nature of the lesion but could not differentiate its content. Positive external transillumination test was the only indirect clinical test to distinguis the clear content in the cystic lesion. External transillumination is a noninvasive test, which has a decisive role in certain ophthalmologic as well as nonophthalmologic conditions.[5,6] Although the technique varies according to the location of the lesion, a dark room and a good illuminator are prerequisite to perform this test.[5,7] We strongly believe that the relatively thin lid and absence of tarsus medial to the punctum increases the reliability of this test in canaliculops.

To conclude, precise history and meticulous clinical examination is indispensable in identifying this rare entity. Histopathology is a prerequisite in all cases to avoid misdiagnosis.

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Gautam Lokdarshi, Neelam Pushker, Seema Kashyap, Abdul Shameer
All India Institute of Medical Sciences, New Delhi, India.

Correspondence to:
Gautam Lokdarshi, MD: gdarshiaiims@gmail.com

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Differentiated dysplasia of periocular epidermis: the first reported case in periocular region

A wide variety of benign and malignant lesions can arise from periocular epidermis, dermis, and adnexal structures, and identification and management of certain *premalignant* lesions can be challenging.[1] We present a unique case of a middle-aged male patient with an eyelid lesion displaying histopathologic features of differentiated dysplasia of epidermis with over 10-year follow-up.

Case Report

A previously fit and well 57-year-old Caucasian male presented with a 14-month history of progressive enlargement of a massive keratic "horn" on his right upper eyelid. He had no history of excessive exposure to ultraviolet radiation or immunosuppression, nor was there a history of dermatologic atypia.

Examination revealed widespread hyperkeratotic changes involving the right upper and lower lid, including subtarsal conjunctiva, with a large irregular mass projecting from above the skin crease of the upper eyelid (Fig. 1A, B). The clinical differential diagnoses included keratoacanthoma and squamous cell carcinoma (SCC), and he underwent an excision biopsy. Histopathologic examination of the eyelid and conjunctiva reported the presence of papillomatous hypertrophic seborrhoeic keratoses with extensive hyper- and parakeratosis and dense inflammatory lymphoplasmacytic infiltrate with no evidence of atypia. These appearances were considered consistent with verrucae.

A few years later, a full-thickness lower eyelid wedge excision for recurrence was performed, and it identified a well-differentiated squamoproliferative lesion with an area of fully excised superficial microinvasion by atypical squamous cells. These changes were thought to represent a well-differentiated SCC. Options such as cryotherapy and exenteration were discussed. As there was no evidence for invasive disease with the exception of 1 specimen, which was fully excised, further cryotherapy was performed.

A specialist histopathology review was requested because of diagnostic uncertainties, and it concluded that the mass is a form of in situ differentiated dysplasia of epidermis, possibly driven by chronic inflammatory process from lichen planus. In the absence of full-thickness cellular atypia, it could not be considered to be a form of Bowen's disease.

At his most recent review in 2016, 11 years after his first presentation, the eye remained comfortable with a visual acuity of 20/30. A minor degree of periocular skin depigmentation was noted, but no significant lid distortion had occurred (Fig. 1C, D).

Discussion

Premalignant lesions of the periocular region such as actinic keratosis and Bowen's disease are well described.[1] In contrast, little is known about differentiated dysplasia of periocular epidermis. The histopathologic criteria for differentiated dysplasia include the presence of disturbed basal cell alignment and conspicuous pleomorphic or atypical cellular features with enlarged nuclei with prominent nucleoli scattered in the lower prickle cell layer (Fig. 2).[2] This condition is frequently found in anogenital and oral mucosa and is a known precursor of invasive SCC.[3,4] In vulvar tissue, it carries a significant risk of neoplastic potential with subsequent diagnosis rate of SCC and median time to malignant transformation being approximately 33% and 23 months, respectively.[5] This lesion has also been described in penile foreskin as