Ultrasound Biomicroscopy of Cystic and Solid Caruncular Oncocytoma

Two patients had an asymptomatic, circumscribed, bluish caruncular mass that appeared cystic clinically and was suspected to represent oncocytoma. In both cases, ultrasound biomicroscopy (UBM) revealed a relatively echolucent circumscribed mass with fine internal echoes suggestive of a cystic mass. Following complete carunculectomy, histopathologic findings disclosed a cystic oncocytoma in 1 case that correlated with the cystic findings on UBM. The second lesion was a more solid cystadenomatous oncocytoma that correlated with size on UBM but was not cystic as suggested by UBM. Ultrasound biomicroscopy can be a useful technique for delineating the configuration and extent of tumors in the caruncular region, but both solid and cystic tumors can appear echolucent on UBM.

Oncocytoma is a benign epithelial tumor that arises from glandular structures in the salivary, thyroid, parathyroid, and lacrimal glands.1 Ocular adnexal oncocytoma arises predominantly from accessory lacrimal glands in the caruncle or rarely in the main lacrimal gland, lacrimal sac, or accessory lacrimal glands of the fornical conjunctiva.1,2 Oncocytoma of the caruncle typically appears bluish in color and shows either a cystic or solid configuration.3 Prior to the development of UBM, there was no reliable imaging modality to assess the configuration, depth, and internal consistency of caruncular tumors. Ultrasound biomicroscopy is a noninvasive diagnostic technique that offers high-resolution imaging to a fraction of a millimeter. It is used predominantly for anterior segment disorders of the eye.4 In this article, we report 2 caruncular oncocytomas studied with UBM, and we show that the tissue configuration on UBM correlates with histopathologic findings but that the internal lucency can be misleading.

Report of Cases. Case 1. A 73-year-old woman noticed a blue spot in the inner side of her right eye for several months. Ocular examination showed a small, round, subepithelial, bluish mass measuring 4 mm in diameter deep in the caruncle of her right eye (Figure 1A). Ultrasound biomicroscopy disclosed a well-circumscribed echolucent lesion with an echogenic outer wall and fine internal reflectivity, consistent with a caruncular cyst-
tic mass (Figure 1B). The differential diagnosis included inclusion cyst, hemorrhage, cystic oncocytoma, or deep melanoma. Following complete carunculectomy, histopathologic findings disclosed a large cyst surrounded by smaller cysts within the caruncular stroma. The cystic cavities were lined by a dual layer of tall, benign columnar epithelial cells with copious quantities of intensely eosinophilic cytoplasm, consistent with oncocytic differentiation (Figure 1C). The diagnosis was cystic oncocytoma.

Case 2. A 59-year-old man noticed a painless dark spot in the medial canthus of his left eye for 2 months. Ocular examination disclosed a well-circumscribed, round, bluish lesion measuring 6 mm in diameter deep within the caruncle (Figure 2A). Ultrasound biomicroscopy showed a well-defined, round, echolucent structure with fine internal reflectivity and a dense outer wall (Figure 2B). The differential diagnosis included inclusion cyst, hemorrhage, cystic oncocytoma, or deep melanoma. Following complete carunculectomy, histopathologic findings of the excised lesion disclosed a relatively solid cystadenomatous proliferation of bland, benign epithelial cells with copious quantities of intensely eosinophilic cytoplasm, consistent with oncocytic differentiation (Figure 2C). The diagnosis was cystadenomatous oncocytoma.

Comment. The caruncle is located in the medial canthus and is composed of tissues from both skin and conjunctiva. Its apical surface is lined by stratified squamous epithelium with appendages consisting of several glandular structures, including pilosebaceous glands, sweat glands, and accessory lacrimal glands. Oncocytomas of the caruncle are thought to arise from the accessory lacrimal glands.

Oncocytoma of the caruncle is relatively uncommon and accounts for up to 8% of biopsied caruncular lesions. It is a painless, slow-growing nodule that is a red, blue, or brown, is solid or cystic in morphology, and can be mistaken for hemangioma, cyst, nevus, or melanoma. Oncocytoma in case 1 was indeed cystic and correlated well with the UBM findings whereas the lesion in case

Figure 2. A 59-year-old man had solid caruncular cystadenoma. A, The mass appeared as a deep blue lesion. B, Ultrasound biomicroscopy showed a circumscribed echolucent mass. C, Histopathologic findings revealed a benign cystadenomatous oncocytoma composed of tall cells with abundant eosinophilic cytoplasm (hematoxylin-eosin, original magnification ×25). Inset, Oncocytic differentiation of the bland epithelial cells is evident (hematoxylin-eosin, original magnification ×100).
Correspondence: Dr C. L. Shields, Ocular Oncology Service, Wills Eye Hospital, 840 Walnut St, Philadelphia, PA 19107 (carol.shields@shieldsoncology.com).

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Surgical removal of an epiretinal membrane (ERM) is a relatively common procedure, often resulting in significant visual improvement. Several complications, however, are well recognized, and include cataract formation, retinal breaks and detachments, cystoid macular edema, retinal phototoxicity, and endophthalmitis. Choroidal neovascularization (CNV) is a rare complication of ERM surgery, and, to our knowledge, only 3 cases have been reported in the literature.² We report 3 additional cases of CNV after surgical removal of idiopathic macular pucker, and comment on the literature regarding this entity.

Report of Cases. Case 1. A 47-year-old man complained of increasing metamorphopsia in his left eye for 3 years. His ophthalmic history was notable for myopia of 7.75 diopters, cataract surgery, the cystoid macular edema component of the caruncle (REPRINTED) ARCH OPHTHALMOL/VOL 124, NOV 2006 WWW.ARCHOPHTHALMOL.COM

