ated with osmium tetroxide, and re-embedded in Epon (Hexion Specialty Chemicals, Inc, Danbury, Connecticut) showed cytoplasm densely packed with mitochondria and sparse melanosomes (eFigure, http://www.archophthalmol.com). No epithelial features were observed.

Fluorescence in situ hybridization experiments on tumor tissue indicated 2 copies of chromosomes 1, 3, 6, and 8. Multiplex ligation-dependent probe amplification testing with the Salsa P027 uveal melanoma kit (MRC-Holland, Amsterdam, the Netherlands) confirmed this normal disomic state for a total of 31 different regions tested on multiple chromosomes. Single-nucleotide polymorphism array analysis revealed no copy number alterations or regions of heterozygosity on any of the chromosomes. These investigations have been carried out according to the tenets of the Declaration of Helsinki.

Comment. The many histologic faces of melanoma include primary and metastatic carcinoma, neuroendocrine tumors, sarcoma, leukemia, and germ cell tumors. Intraocular oncocytoma has been considered in the differential diagnosis of mesectodermal leiomyoma of the ciliary body. A granular cell tumor of the iris and ciliary body has been described. The diagnosis of choroidal melanoma and exclusion of other cancers was based on the tumor’s characteristic mushroom shape, positive immunohistochemical staining for HMB-45, Melan-A, and tyrosinase, and a 2-year follow-up without evidence of another primary cancer.

The prognostic significance of oncocytic change in uveal melanoma is not clear. Our case displayed unfavorable histological prognostic parameters in tumor size, epithelial cell type, and vascular pattern. This was not corroborated with cytocuclear negative parameters as no cytogenetic aberrations were present. Earlier, it was reported that cytogenetic aberrations were detected in 80% (59 of 74 cases) of a series of uveal melanomas. In cutaneous melanoma, no prognostic significance could be determined. Oncocytic change is generally proposed to be a reactive degenerative adaptation; however, the fact that no cytogenetic changes were observed in this tumor poses the possibility of a distinct tumor variant as opposed to a degenerative change.

In conclusion, to our knowledge we give the first description of an oncocytic uveal melanoma that is not to be mistaken histologically for other tumors, including metastatic carcinoma.

Robert M. Verdiijk, MD, PhD
Thomas van den Bosch, MD
Nicole C. Naus, MD, PhD
Dion Paridaens, MD, PhD
Cornelia M. Mooy, MD, PhD
Annelies de Klein, PhD

Author Affiliations: Departments of Pathology (Drs Verdiijk and Mooy), Ophthalmology (Drs van den Bosch and Naus), and Clinical Genetics (Dr de Klein), Erasmus MC University, and Rotterdam Eye Hospital (Drs van den Bosch and Paridaens), Rotterdam, the Netherlands.

Correspondence: Dr Verdiijk, Department of Pathology, Erasmus MC University, PO Box 2040, 3000 CA, Rotterdam, the Netherlands (r.verdiijk@erasmusmc.nl).

Author Contributions: Drs Verdiijk and van den Bosch contributed equally to this article.

Financial Disclosure: None reported.

Online-Only Material: The eFigure is available at http://www.archophthalmol.com.


Solitary Epithelioid Histiocytoma (Reticulohistiocytoma) of the Eyelid

Solitary epithelioid histiocytoma of the dermis (and rarely of the mucosa but not the visceras) was previously designated as a reticulohistiocytoma. There are reports of 2 solitary corneoscleral lesions and 1 small recurrent lesion in an eyelid. Among the rarest of histiocytic disorders, it typically affects the truncal region of young men (uncommonly the face and digits) and is unassociated with any systemic disease. Among 12 of 44 noneyelid lesions of solitary epithelioid histiocytoma with follow-ups, none recurred despite incomplete excision. Multicentric reticulohistiocytoma, on the other hand, has a predilection for the face and digits of middle-aged women and displays an associated disabling multifocal arthropathy and internal carcinoma in approximately 27% of patients. It has been described in all 4 eyelids. Current opinion holds that both unicentric and multicentric epithelioid histiocytomas are nonneoplastic, arising from the macrophagic rather than the dendritic histiocytic compartment.

Report of a Case. A healthy 39-year-old woman was referred for evaluation of a 3-month-old lesion on her left lower eyelid. The patient had no other skin lesions. The examination of the eyelids revealed a smooth, 10-mm-elevated, flesh-colored, firm lesion (Figure, A) in the lateral one-third of the eyelid. Most of the eyelashes were missing. Visual acuity was 20/20 OU. There was no head and neck lymphadenopathy. Computed tomographic results of the neck, chest, and abdomen/pelvis were
Figure. Solitary epithelioid histiocytoma of the eyelid. A, Frontal view reveals a rounded, projecting tumor with a smooth surface and 2 surviving eyelashes surmounting a flesh-colored mass involving the left lower lateral eyelid skin and margin of a 39-year-old woman. B, Full-thickness eyelid resection shows a tuberose mass (Masson trichrome stain, original magnification ×25). O indicates orbicularis muscle; S, skin; and T, tarsus. C, The epidermis displays surface parakeratosis (arrow) (Masson trichrome stain, original magnification ×100). Clusters of polygonal epithelioid cells (also depicted in the inset at higher magnification; Masson trichrome stain, original magnification ×200) compose the tumor and are separated by thin strands of collagen. D, Myriad lymphocytes, polymorphonuclear leukocytes, and eosinophilic leukocytes envelop individual epithelioid cells with abundant eosinophilic cytoplasm that fail to manifest peripolysis and emperipolysis (hematoxylin-eosin, original magnification ×200). The cells display clefts as they retract from their neighbors, a distinctive feature differing from the syncytial appearance of most tuberculoid histiocytic collections, as in sarcoidosis. Inset, Some cells have adopted irregular shapes and have a more deeply staining, eosinophilic cytoplasm (hematoxylin-eosin, original magnification ×250). E, Intense positive staining of epithelioid cells for vimentin, an intermediate cytoplasmic filament, is seen (immunoperoxidase reaction, diaminobenzidine chromogen, original magnification ×200). F, The marker CD163 is strongly positive and highly specific for histiocytes (immunoperoxidase reaction, diaminobenzidine chromogen, original magnification ×200). Inset, The marker CD68 is more weakly positive and less specific (immunoperoxidase reaction, diaminobenzidine chromogen, original magnification ×200).
negative. A full-thickness eyelid resection was performed with 2-mm margins. The patient has experienced no recurrence after 9 months.

The excised mass measured 0.4 × 0.5 cm at its base and 1.0 cm in height (Figure, B). Microscopically, a mass of grouped, large epithelioid histiocytes (Figure, C) began beneath a mildly parakeratotic epidermis and a narrow band of collagen; they were usually mononucleated but occasionally multinucleated, subdivided by fine collagen strands, and accompanied by a mixture of lymphocytes, polymorphonuclear leukocytes, and eosinophilic leukocytes. The tumor evinced incursion into the orbicularis muscle and tarsus (Figure, B). The principal polygonal cells were endowed with abundant eosinophilic or amphiphilic cytoplasm (Figure, D) without periodic acid–Schiff–positive inclusions. Their nuclei were round and possessed small nucleoli; mitotic figures were not identified. Acid fast and methenamine silver stains did not detect organisms. The large tumor cells were strongly positive for vimentin (Figure, E), sporadically positive for S-100 protein, strongly positive for CD163, and more weakly positive for CD80 (Figure, F) and α1-antitrypsin. Staining results for lysozyme, factor XIIIa, and AE1/AE3 (for keratin), HMB-45, melan A, and Mitf (for melanocytes), desmin and smooth muscle actin (for myoid cells), and CD1a (for Langerhans cells) were negative in the principal tumor cells. Ki-67 nuclear staining for cells in S-phase was absent in the round cells but present among the dispersed inflammatory cells.

Comment. Zak6 called attention to the round ganglionlike aspect of the principal cells in solitary epithelioid histiocytoma. Their capacious, often partially xanthomatized cytoplasm with a deeply eosinophilic or amphiphilic character, their large nuclei with a distinct and sometimes large nucleolus, the absence of a desmoplastic stroma, and frequent surrounding lacunae permitting definition of the cell borders set the lesion apart. Granulocytes and T lymphocytes (but not B lymphocytes) are admixed within the lesion. The tumor cells are CD163, CD68, and α1-antitrypsin positive (histiocytic markers) with erratic and focal staining for S-100 protein and Mitf (the last feature being absent in our case). They are negative for keratin, CD1a (Langerhans cells), melan A, and HMB-45 (melanoma or Spitz nevus) and have a very low Ki-67 index (<1%); mitotic figures can occasionally be observed. The differential diagnosis should focus on sarcoidosis (which has a tuberculoid pattern), Rosai-Dorfman disease (strongly S-100 protein positive) with emperipolysis, elevated tuberous xanthoma, juvenile and adult xanthogranulomas with Touton giant cells, Erdheim-Chester disease with Touton cells and marked fibrosis, necrobiotic xanthogranuloma, Langerhans cell histiocytosis, and epithelioid sarcoma.

Frederick A. Jakobiec, MD, DSc
Maria Kirzhner, MD
Marlene Morales Tollett, MD
Ronald Mancini, MD
R. Nick Hogan, MD, PhD

Author Affiliations: Department of Ophthalmology, David G. Cogan Laboratory of Ophthalamic Pathology, Massachusetts Eye and Ear Infirmary and Harvard Medical School, Boston (Drs Jakobiec and Kirzhner); and Departments of Ophthalmology (Drs Morales Tollett, Mancini, and Hogan) and Pathology (Dr Hogan), University of Texas Southwestern Medical Center, Dallas.

Correspondence: Dr Jakobiec, Department of Ophthalmology, David G. Cogan Laboratory of Ophthalamic Pathology, 243 Charles St, Room 321, Boston, MA 02114 (fred_jakobiec@meei.harvard.edu).

Author Contributions: Dr Jakobiec had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

Financial Disclosure: None reported.


COMMENTS AND OPINIONS

Obviating Endophthalmitis After Cataract Surgery: Excellent Wound Closure Is the Key

We congratulate Dr Raizman on his excellent, timely Editorial1 in the April 2011 issue of the Archives. In discussing the importance of adequate wound closure in his final paragraph, we believe he has highlighted the single most important factor in preventing endophthalmitis after cataract surgery.

We in the state of New South Wales, Australia, have repeatedly published that we unfortunately own the highest documented endophthalmitis rate in the world.2,3 We believe this is due to failure to achieve “excellent closure of the incisions.”1(p502)

There is overwhelming evidence that clear corneal incisions managed by stromal hydration alone are not self-sealing.4,5 Moreover, anatomical closure of this nature does not endure beyond 20 minutes.6 It is also known that the eye becomes more deformable with blinking after the development of the usual postoperative ocular hypotony 3 hours following surgery.6 We have previously described this as the “sucking corneal wound.”1 This wound, when not adequately closed, provides repeated opportunities for the ingress of organisms into the eye, occurring with each blink.

Future research comparing topical antibiotics and intracameral antibiotics in preventing endophthalmitis will...