Histopathology of Documented Growth in Small Melanocytic Choroidal Tumors

Differentiation of a choroidal nevus from a small choroidal melanoma can be difficult. Choroidal nevi are generally asymptomatic lesions that are less than 6 mm in diameter and less than 1.5 mm in height. The presence of drusen or areas of atrophy of the overlying retinal pigment epithelium generally indicate a chronic, inactive choroidal nevus. Orange pigment and subretinal fluid are more commonly present in choroidal melanomas. Echography usually demonstrates medium to high internal reflectivity in nevi and low reflectivity in melanomas. Documented growth is widely interpreted as evidence of malignancy.

We provide the histopathology of 2 small choroidal melanocytic tumors that became symptomatic, developed orange pigment, and showed documented growth. One lesion was an epithelioid malig-

Figure 1. Fundus photograph of the right eye of case 1 shows a flat, pigmented choroidal lesion superior to the disc.

Figure 2. Fundus photograph of the right eye of case 1 shows a symptomatic, enlarged choroidal lesion 2 years after the photograph in Figure 1.
increased to 1.7 mm. The patient was advised that the lesion was malignant. He subsequently underwent an unremarkable evaluation for metastatic disease. After reviewing possible options, the patient decided to have his eye removed.

Case 2. A 47-year-old man was examined in April 1995 in the Ocular Oncology Clinic for an enlarging, small pigmented choroidal mass beneath his left macula. A photograph from March 1991 (Figure 3) showed a flat, pigmented 4.3 × 3.2-mm lesion beneath the inferior macula. The lesion had no drusen, orange pigment, or adjacent subretinal fluid. The lesion had increased to 6.0 × 4.0 mm and had focal orange pigment over the surface of the lesion. Echography revealed a maximum height of 2.0 mm with medium internal reflectivity. Because the growth had occurred over a 4-year period, the initial decision was to follow the lesion. In February 1996, the patient complained of constant flickering in the central aspect of his left visual field. The lesion now showed increased orange pigmentation, and the base had increased to 6.5 × 4.5 mm (Figure 4). Repeat echography showed that the internal acoustic pattern and height were unchanged. The patient was advised that the lesion showed evidence of malignancy and underwent a metastatic evaluation, which was unremarkable. After reviewing possible options, the patient elected to have his eye removed.

Histopathological Findings. Histopathological examination of the right eye of patient 1 (Figure 5) showed an epithelioid cell–type malignant melanoma of the choroid, arising from a preexisting nevus.

Histopathological examination of the left eye of patient 2 (Figure 6) showed a benign spindle nevus of the choroid with numerous melanophages within the lesion. Multiple histopathological sections through various portions of the tumor failed to show any evidence of melanoma. The clinically apparent orange pigment of the tumor appeared to correlate with the presence of melanophages.

Comment. In the Collaborative Ocular Melanoma Study,3 histopathological examination of 413 eyes with a clinical diagnosis of choroidal melanoma demonstrated a misdiagnosis rate of 0.48%. In contrast to our cases, however, all of those tumors had a height of greater than 2.5 mm. With lesions less than 2 mm in height, it is more difficult to distinguish a nevus from a melanoma.

Recent studies6-8 have documented that certain clinical features are predictive of growth of small melanocytic choroidal tumors. These features include visual symptoms, greater tumor thickness and diameter, presence of orange pigment, absence of drusen, absence of retinal pigment epithelial changes adjacent to the tumor, posterior tumor margin adjacent to the disc, and subretinal fluid. In those studies, growth was presumed to be the key indicator of malignant transformation, as those small lesions
were generally treated with globe-preserving therapies with no histopathological confirmation of the malignancy.

The 2 lesions described in this report exhibited many of the clinical features predictive of growth and documented growth, but only one of the lesions was malignant. With the exception of one feature, posterior margin adjacent to the disc, the benign choroidal nevus demonstrated the same array of predictive factors for growth as the malignant melanoma did. Moreover, the nevus showed the greater growth in height (2.0 mm vs 1.7 mm), but over a longer period (5 years vs 2 years). On a clinical basis, it was not possible to distinguish this enlarging nevus from a growing melanoma.

Augsburger and colleagues have advocated the use of transvitreal biopsy of small melanocytic choroidal tumors to achieve an accurate diagnosis. With their technique, they were able to obtain a sufficient aspirate for cytdiagnosis in 65% of cases, but in 18% of those cases, the biopsy specimen showed intermediate cells consistent with either atypical nevus or low-grade melanoma.

Growth or enlargement of choroidal nevi has been previously documented. Our report demonstrates that documented growth is not an unequivocal indicator of melanoma for small melanocytic tumors.

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Bilateral Conjunctival Nodules: An Unusual Manifestation of Vogt-Koyanagi-Harada Syndrome

Vogt-Koyanagi-Harada (VKH) syndrome is an autoimmune disorder against melanocytes causing inflammation of melanocyte-containing tissues, such as uvea, skin, ear, and meninges. Patients with VKH syndrome often have bilateral intraocular inflammation, anterior uveitis, and optic neuritis. The conjunctival nodules described in this report are unusual and may represent a manifestation of the underlying autoimmune process.