Uveal effusion syndrome is a rare disorder characterized by the accumulation of serous transudate in the suprachoroidal space resulting in ciliochoroidal thickening, ciliochoroidal detachment, and serous nonrhegmatogenous retinal detachment, especially in middle-aged men.\(^1\)\(^,\)\(^2\) This collection of transudate is the result of decreased venous or transcleral outflow presumably due to vortex vein compression.\(^3\) This condition is most commonly attributed to scleral thickening that leads to vortex vein obstruction, which is often seen in individuals with hyperopia/nanophthalmos.\(^4\) Other causes of uveal effusion syndrome include reduced scleral protein permeability, reduced scleral hydraulic conductivity, chronic choroidal inflammation, increased choroidal vessel permeability, and chronic hypotony.\(^5\) Rarely, intraocular tumors can lead to uveal effusion.\(^1\)\(^,\)\(^4\)\(^,\)\(^6\)\(^,\)\(^7\) The most common presenting complaint in patients with uveal effusion syndrome is painless visual impairment due to fluid collection.\(^5\)

Uveal effusion can be mistaken as ciliochoroidal or choroidal melanoma because of similar clinical features of dome-shaped ciliochoroidal thickening and nonrhegmatogenous retinal detachment.\(^3\) In a review of 1739 patients with pseudomelanoma of the posterior uveal tract by Shields and associates,\(^8\) 1% (n=17) of patients were found to have uveal effusion syndrome. Careful clinical examination, transillumination, and B-scan ultrasonography allow accurate diagnosis of uveal effusion syndrome.\(^7\) Herein, we report a case of spontaneously resolved uveal effusion that simulated a choroidal melanoma.

CASE REPORT

A 69-year-old white woman presented with photopsia in the left eye (OS) for 1 week. On examination, visual acuity was 20/25 in the right eye (OD) and 20/30 OS. Intraocular pressure was normal in both eyes (OU). Anterior segment evaluation showed cataract OU. Fundus examination OD was within normal limits. Fundus examination OS revealed a 12x12x5.9 mm choroidal mass inferotemporally with associated subretinal fluid (Figure 1A). B-scan ultrasonography showed a 5.9 mm echodense choroidal mass OS in the inferotemporal periphery (Figure 1B). Based on the clinical and B-scan ultrasonographic findings, a diagnosis of possible choroidal melanoma OS was made, and the patient was referred to Ocular Oncology Service at Wills Eye Institute for further evaluation.

On evaluation 3 weeks later at the Ocular Oncology Service, Wills Eye Institute, the visual acuity was 20/25 OD and 20/30 OS. Anterior segment examination confirmed moderate nuclear sclerosis OU. The right eye was otherwise normal. On fundus examination OS, there was an ill-defined amelanotic choroidal mass inferotemporally measuring 6x6x1.9 mm (Figure 1C). Compared with previous photographs, the mass was much smaller in size. Transillumination disclosed no distinct tumor shadow. B-scan ultrasonography OS revealed an echodense mass of 1.9 mm thickness and without choroidal excavation (Figure 1D). Based on these findings, a diagnosis of pseudomelanoma with idiopathic uveal effusion syndrome was made. Observation was advised. Fundus examination OS at 1 year follow-up showed complete resolution of uveal effusion (Figure 1E and 1F).
Uveal effusion syndrome usually manifests with striking clinical features of nontraumatic, painless choroidal elevation in 1 to 4 quadrants simulating an intraocular mass and is often associated with shallow serous retinal detachment.\textsuperscript{5,10} Uveal effusion syndrome can be misdiagnosed as uveal melanoma, accounting for 1\% of pseudomelanoma cases.\textsuperscript{8}

It is critical to establish an accurate diagnosis in order to administer appropriate treatment. Uveal effusion can be differentiated from uveal melanoma by transillumination, B-scan ultrasonography, fluorescein angiography, and MRI.\textsuperscript{1,6,7} On transillumination, serous uveal effusion transmits light, while uveal melanoma blocks light. B-scan ultrasonography demonstrates clear echolucency with no vascular pulsations in uveal effusion, while uveal melanoma exhibits moderate echolucency with vascular pulsations present. In our case, B-scan ultrasonography displayed an echodense lesion suggestive of a possible hemorrhagic or more viscous uveal effusion. Fluorescein angiography depicts intrinsic haphazard tumor vascularity in uveal melanoma, whereas uveal effusion would have normal choroidal vessels in elevation. MRI shows tumor enhancement in uveal melanoma, not seen with uveal effusion. Fine needle aspiration biopsy can be used in suspicious cases to differentiate solid uveal melanoma from serous/hemorrhagic uveal effusion.

Rarely, uveal effusion can occur secondary to underlying uveal melanoma or metastasis.\textsuperscript{6,7} Palamar and associates\textsuperscript{6} described a 78-year-old woman with choroidal melanoma who presented with painful scleritis and choroidal effusion. The tumor was treated with iodine-125 plaque radiotherapy, and the scleritis and choroidal effusion completely resolved at 2 months follow-up. Itturalde and associates\textsuperscript{7} reported a 41-year-old woman with partial spontaneous regression of choroidal melanoma who presented with painful blurred vision. On examination, there was bullous choroidal effusion for 360\(^\circ\) in the periphery with a 10.4-mm thick choroidal melanoma in the superonasal quadrant confirmed on B-scan ultrasonography and orbital magnetic resonance imaging (MRI). The patient subsequently underwent enucleation, and histopathology disclosed necrotic, bland spindle melanoma cells. The authors speculated that in both these cases the effusion was related to tumor necrosis.\textsuperscript{6,7} In our case, there was no evidence of choroidal melanoma. The cause of uveal effusion in our case is not known. The rapid and spontaneous resolution of the uveal effusion is somewhat unusual.

Corticosteroids can be used as primary treatment for uveal effusion if there is underlying inflammation. Other treatments include sclerectomy windows for vortex vein decompression to reduce fluid accumulation by increasing venous and transcleral outflow.\textsuperscript{3} Johnson and Gass reported the surgical outcomes in 23 eyes of 20 patients with uveal effusion treated with quadrant sclerectomies and noted resolution of fluid in 96\% of eyes after 1 or 2 procedures and visual acuity improved in 56\% of eyes.\textsuperscript{11} In our case, spontaneous resolution of the effusion occurred, requiring no additional intervention.

In summary, we describe a case of uveal effusion misdiagnosed as choroidal melanoma. Uveal effusion can be differentiated from uveal melanoma based on imaging.

**Figure 1.** Spontaneous resolution of uveal effusion simulating choroidal melanoma in a 69-year-old female. Fundus examination of the left eye (OS) prior to referral revealing an elevated 12x12x5.9 mm choroidal mass (A) inferotemporally with echodense 5.9 mm thickness (white arrow) on ultrasonography (B). Three weeks after referral showing minimal ill-defined amelanotic choroidal elevation (C) inferotemporally and much reduced mass (D) to 1.9 mm thickness (red arrow). At 1-year follow-up showing complete spontaneous resolution of uveal effusion (E) and no choroidal or suprachoroidal thickening (F) on ultrasonography with complete resolution of the lesion.
features. In every case, however, melanoma should be excluded.

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