tight at the arteriovenous crossing itself, where the vessels obviously could not be dissected (Figure 2). Serial sections showed that the distance across the adjoining vascular walls separating the lumina of the 2 vessels was as little as 4.48 µm.

Comment. In the present study, we tried to focus on the histological damage after AVD in a living human eye. The only histological results presented in the literature—by a single study—are of 6 enucleated human eyes from an eye bank. To date, the complication rate of AVD has been low, but little is known about nerve fiber layer damage.

Our histological findings have confirmed our assumption of a pronounced nerve fiber layer defect. We are concerned about this issue, as we would anticipate visual field defects. However, the effects of AVD on the visual field remain unknown and deserve investigation.

Furthermore, our study strengthens the clinical and histological correlations regarding the previously described tight connection of the crossing vessels by documenting these precisely in the living eye and providing histological correlation. We therefore tend to doubt reports of successful and simple separation with the technique described herein. Some groups reported the successful use of scissors. However, having the nerve fiber layer damage in mind, the use of scissors may lead to greater retinal damage compared with the use of blades.

Our experience leads us to maintain that it is not feasible to cut such thin tissue with a blade or scissors, although our results reflect the findings in only 1 eye. We recommend that future studies concentrate on whether successful vessel separation correlates to visual improvement.

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Cytomegalovirus Retinitis in an Immunocompetent Patient

Cytomegalovirus (CMV) retinitis is typically seen in immunocompromised patients. Groups at risk for CMV retinitis include patients with AIDS with a CD4 cell count less than 50/µL, kidney transplant patients undergoing long-term immunosuppres-
sion, and neonates. Cytomegalovirus caused retinitis in 30% of patients with AIDS until the introduction of highly active retroviral therapy decreased its incidence by 75%. This article describes an immunocompetent woman with severe bilateral CMV retinitis.

Report of a Case. A 51-year-old woman visited her ophthalmologist and subsequently a retina specialist complaining of intermittent dizzy spells and periods of light-headedness, blurred vision, and floaters in both eyes for 3 weeks. Ophthalmologic examination showed vitreous inflammatory cells, peripheral perivascular whitening, confluent areas of cream-colored retina, and necrosis in both eyes. The physicians diagnosed retinal vasculitis and began administering prednisone, 80 mg/d for 2 weeks, quickly tapering to 20 mg/d for 6 additional weeks.

The patient was seen by us for evaluation of her persistent symptoms. Her best-corrected visual acuities measured 20/60 OD and 20/50 OS, with intraocular pressures of 31 mm Hg in the right eye and 36 mm Hg in the left eye. Slitlamp biomicroscopy showed fine keratic precipitates, 1+ aqueous cell and flare, and 1+ vitreous inflammatory cells in both eyes. Funduscopic examination revealed areas of confluent retinitis and hemorrhage in zone 1 and peripheral necrosis and fibrosis (Figure 1 and Figure 2).

Pertinent laboratory findings included the following: human immunodeficiency virus antibodies, negative; human immunodeficiency virus RNA level, less than 50 copies/mL; CD4 cell count, 327/µL (reference range, 401/µL-1532/µL); CMV IgG level, 1900 arbitrary units/mL (reference range, 0.000-0.499 arbitrary units/mL); CMV pp65 antigen level, greater than 50 cells per 400,000 peripheral blood leukocytes. Aqueous fluid analysis by polymerase chain reaction confirmed the clinical diagnosis of systemic CMV infection with retinitis, the patient was treated with valganciclovir, 900 mg by mouth twice daily. Two days later, her fever abated; 5 days later, the retinitis progressed, prompting twice-weekly intravitreal ganciclovir sodium injections (2000 µg) for 3 weeks, leading to successful remission. After 6 weeks of maintenance therapy with ganciclovir (900 mg/d), severe neutropenia (neutrophil count, 0.4 x 10^9/µL) prompted its discontinuation. Six weeks later, the patient experienced a low-grade fever with a CMV pp65 antigen level of greater than 50 cells. Computed tomographic scans of the chest, abdomen, and pelvis and magnetic resonance images of the chest were remarkable only for leaking silicone breast implants. A bone marrow biopsy revealed mild granulomatous changes without infection or neoplasm. The reinstatement of valganciclovir therapy (450 mg twice daily) resolved the fevers. Subsequent retinal detachments were repaired by vitrectomy and silicone oil in the right eye and vitrectomy/scleral buckle/gas-fluid exchange in the left eye, resulting in visual acuities of 20/70 OD and 20/60 OS after 6 months.

Comment. A MEDLINE literature search discovered only 2 cases of presumed CMV retinitis in immunocompetent patients, both before the CMV/AIDS epidemic and the availability of anti-CMV drugs. These patients demonstrated cotton-wool spots and white chorioretinal spots, not the typical granular, hemorrhagic retinitis. One patient synthesized complement-fixing antibodies and actively shed CMV in the urine. Both patients’ fundus findings spontaneously resolved. Highly elevated IgG antibody titers and a strongly positive pp65 antigen load verified systemic CMV infection in our patient. The detection of CMV replication through aqueous polymerase chain reaction testing verified the intraocular infection.

Most CMV retinitis results from the reactivation of previously acquired disease, although this patient’s highly elevated IgG level does not rule out a primary infection with normalization of the IgM level within the first 2 months. A satisfactory explanation for this apparently healthy patient’s development of CMV retinitis remains elusive despite complete evaluations by infectious disease and hematology/oncology consultants. We speculate that 2 months of oral prednisone therapy initially depressed the patient’s CD4 count and possibly worsened the...
early course of the retinitis. We were compelled to treat this patient’s retinitis in light of the advanced zone 1 involvement on initial examination and the subsequent progress during the first week of oral induction therapy.

This case emphasizes the need to include CMV along with herpes simplex virus, varicella-zoster virus, toxoplasmosis, and syphilis in the differential diagnosis of necrotizing retinitis in healthy patients. Furthermore, physicians should be reminded to administer corticosteroids judiciously and to frequently reappraise their effect on inflammatory ocular disease.

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Correction

Error in Table. In the Laboratory Sciences article by Wamsley et al titled “Vitreous Glutamate Concentration and Axon Loss in Monkeys With Experimental Glaucoma,” published in the January issue of the ARCHIVES (2005;123:64-70), an error occurred in Table 2 on page 69. In the far right column of that table, eighth row, the ratio for arginine should have been indicated as being significant at $P < .001$. The corrected Table 2 is reprinted here.

Table 2. Amino Acid Analysis Results

<table>
<thead>
<tr>
<th>Amino Acid</th>
<th>No. of Eyes</th>
<th>ExpG, Mean ± SEM, µmol/L</th>
<th>Ctl, Mean ± SEM, µmol/L</th>
<th>ExpG/Ctl, Mean ± SEM, µmol/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspartic acid</td>
<td>17</td>
<td>3.09 ± 0.62</td>
<td>3.69 ± 0.80</td>
<td>0.98 ± 0.10</td>
</tr>
<tr>
<td>Glutamate</td>
<td>20</td>
<td>24.40 ± 6.47</td>
<td>24.54 ± 6.76</td>
<td>1.18 ± 0.12</td>
</tr>
<tr>
<td>Asparagine</td>
<td>20</td>
<td>20.30 ± 1.38</td>
<td>22.83 ± 1.59</td>
<td>0.91 ± 0.04†</td>
</tr>
<tr>
<td>Serine</td>
<td>20</td>
<td>84.10 ± 6.11</td>
<td>73.50 ± 4.54</td>
<td>1.17 ± 0.07†</td>
</tr>
<tr>
<td>Glutamine</td>
<td>20</td>
<td>845.09 ± 38.47</td>
<td>806.46 ± 31.80</td>
<td>1.06 ± 0.04</td>
</tr>
<tr>
<td>Glycine</td>
<td>15</td>
<td>12.05 ± 3.87</td>
<td>6.01 ± 2.49</td>
<td>3.02 ± 1.03</td>
</tr>
<tr>
<td>Histidine</td>
<td>20</td>
<td>49.20 ± 7.31</td>
<td>49.43 ± 7.48</td>
<td>1.13 ± 0.10</td>
</tr>
<tr>
<td>Arginine</td>
<td>20</td>
<td>78.01 ± 6.46</td>
<td>47.29 ± 2.12</td>
<td>1.67 ± 0.12‡</td>
</tr>
<tr>
<td>Threonine</td>
<td>20</td>
<td>38.79 ± 7.33</td>
<td>35.54 ± 3.81</td>
<td>1.19 ± 0.09†</td>
</tr>
<tr>
<td>Alanine</td>
<td>20</td>
<td>73.22 ± 6.72</td>
<td>58.24 ± 3.22</td>
<td>1.29 ± 0.10§</td>
</tr>
<tr>
<td>Proline</td>
<td>20</td>
<td>44.41 ± 6.20</td>
<td>15.23 ± 1.32</td>
<td>3.18 ± 0.48‡</td>
</tr>
<tr>
<td>Tyrosine</td>
<td>20</td>
<td>28.25 ± 2.31</td>
<td>22.67 ± 1.59</td>
<td>1.27 ± 0.07§§</td>
</tr>
<tr>
<td>Valine</td>
<td>20</td>
<td>66.86 ± 3.12</td>
<td>69.65 ± 3.28</td>
<td>0.98 ± 0.04</td>
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<tr>
<td>Methionine</td>
<td>20</td>
<td>15.76 ± 1.67</td>
<td>15.22 ± 1.79</td>
<td>1.13 ± 0.08</td>
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<tr>
<td>Cysteine</td>
<td>20</td>
<td>28.55 ± 3.93</td>
<td>11.70 ± 0.85</td>
<td>2.67 ± 0.42‡</td>
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<tr>
<td>Isoleucine</td>
<td>20</td>
<td>23.96 ± 1.74</td>
<td>24.46 ± 1.21</td>
<td>0.98 ± 0.04</td>
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<tr>
<td>Leucine</td>
<td>20</td>
<td>65.27 ± 3.43</td>
<td>68.32 ± 3.03</td>
<td>0.96 ± 0.04</td>
</tr>
<tr>
<td>Phenylalanine</td>
<td>20</td>
<td>29.77 ± 8.30</td>
<td>29.87 ± 3.99</td>
<td>1.02 ± 0.07</td>
</tr>
<tr>
<td>Tryptophan</td>
<td>13</td>
<td>29.86 ± 9.02</td>
<td>24.48 ± 9.34</td>
<td>1.54 ± 0.19§§</td>
</tr>
<tr>
<td>Lysine</td>
<td>19</td>
<td>122.40 ± 12.52</td>
<td>78.92 ± 4.69</td>
<td>1.61 ± 0.14‡§§</td>
</tr>
</tbody>
</table>

Abbreviations: Ctl, contralateral control eyes; ExpG, eyes with experimental glaucoma.
*If an amino acid was detectable in the vitreous sample from one eye of a monkey but not the opposite eye, the value of the opposite eye was designated as 0. In no case was the amino acid level of the Ctl eye undetectable and that of the ExpG eye measurable. If an amino acid was not detected in both eyes of an animal, then no value was designated for that amino acid, which is why the numbers of eyes are not the same for all amino acids.

†$P < .05$.
‡$P < .001$.
§$P < .005$. ©2005 American Medical Association. All rights reserved.