Research Update • Le point sur la recherche

Unblinded by the laser light

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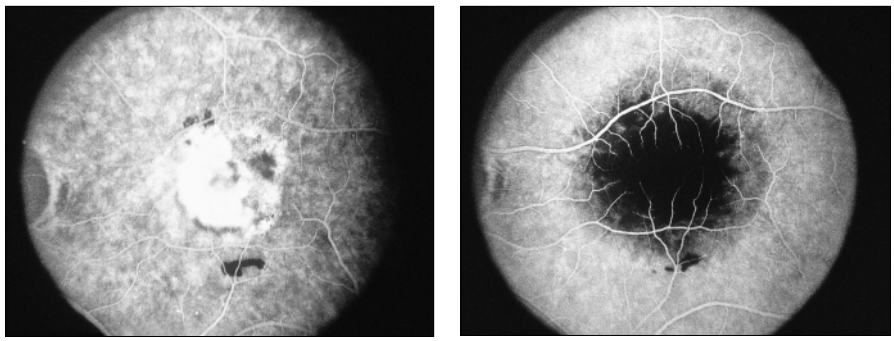

First photo (left) shows late-phase fluorescein angiogram demonstrating an area of choroidal neovascular growth beneath the central macula. The second photo of an early-to-mid phase fluorescein angiogram shows hypofluorescence in the central macula, indicating closure of the neovascular complex 1 week after photodynamic therapy. The patient's visual acuity was stable at 20/70.

A new drug developed by a Vancouver company may be a breakthrough for treatment of age-related macular degeneration (AMD). QLT PhotoTherapeutics Inc., in collaboration with CIBA Vision Ophthalmics Inc., is conducting final testing on verteporfin (liposomal benzoporphyrin derivative monoacid ring A) in photodynamic therapy trials.

There are about 400 000 new cases of AMD in Canada each year, and existing laser coagulation treatment is helpful only in some patients with early-stage disease. Patients with the condition can lose their sight within 1 or 2 years.

The new drug is injected intravenously and is rapidly absorbed by the new choroidal vascular tissue caused by AMD, but not the normal tissue. It is then activated with laser light; following a series of biochemical reactions, this results in platelet adhesion, degranulation and thrombus formation, which in turn cause the abnormal blood vessels to close. The treatment takes less than 30 minutes.

The pivotal phase-3 trials of verteporfin included patients over age 50 with AMD whose vision was in the 20/40 to 20/200 range. Patients with other diseases such as diabetic retinopathy were excluded from the study.

As well, the company recently began a complementary study involving patients with an earlier stage of AMD and pathologic myopia. "A number of patients have now been treated safely up to 4 times over a period of 12 months," says Dr. Julia Levy, president of QLT PhotoTherapeutics. "The VIP trial is an opportunity to confirm verteporfin's efficacy in a broader range of patients and increase clinical experience with the product."

About 400 patients will participate in the trial, which will be carried out at 28 centres in North America and Europe. Applications for regulatory approval for verteporfin are expected to be filed in mid-1999. — © *Heather Kent*

In the news . . .

Mutant HIV resists protease and reverse-transcriptase inhibitors

A new strain of HIV-1 is resistant to the protease inhibitors and reverse-transcriptase inhibitors that form the basis of the latest drug therapies, states a report released urgently on the Internet before publication in the *New England Journal of Medicine*. In a reported case, the mutated variant of the virus was transmitted sexually, just like the regular strain.

C. difficile *causing difficulty*

A Canada-wide survey shows that diarrhea caused by *Clostridium difficile* is a major problem in large Canadian hospitals (*J Clin Microbiol* 1998;36[7]:2076-80). The average incidence of *C. difficile* infection per 100 000 patient days was 23.5 cases for hospitals with less than 300 beds, 30.8 cases for hospitals with 300 to 500 beds and 40.3 cases for hospitals with more than 500 beds. Clinical criteria for testing varied widely and cytotoxin testing of tissue culture and enzyme-linked immunosorbent assay were the most commonly used tests.

Vaccine against Lyme disease

Two vaccines developed with recombinant-DNA technology have proved effective in preventing most cases of Lyme disease, according to large randomized controlled trials (*N Engl J Med* 1998;339:209-15, 216-22). One vaccine prevented about 50% of cases after 2 injections, and about 75% after 3 shots; the other has efficacy of 68% after 2 doses and 92% after 3. The vaccines appear to be safe, with no serious adverse effects. Both vaccines consist of a protein found on the outer surface of the *Borrelia burgdorferi* bacteria that cause the disease.