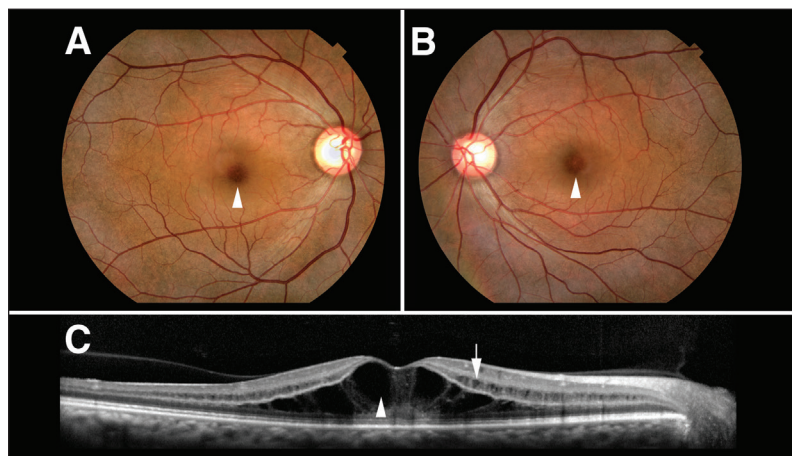


## CLINICAL IMAGES

## Cystoid macular edema associated with chemotherapy

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**Figure 1:** Funduscopy examination showing cystoid macular edema in the (A) right and (B) left eye (arrowheads) in a 45-year-old woman with recurrent breast cancer. (C) Spectral-domain optical coherence tomogram at the level of the right fovea showing intraretinal fluid in the outer plexiform layer (arrowhead) and cystoid changes in the inner retinal layer (arrow).

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A 45-year-old woman with recurrent breast cancer, who was otherwise healthy, presented to the ophthalmology clinic with a one-month history of decreased vision in both eyes. On examination, her visual acuity was 0.05 and her intraocular pressure was 14 mm Hg in both eyes. Slit-lamp examination showed asymmetric optic discs and cystoid macular edema (Figure 1A and B). Fluorescein angiography showed only trace leakage from the retinal capillaries (Appendix 1, available at [www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.131080/-/DC1](http://www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.131080/-/DC1)). The differential diagnosis for cystoid macular edema without substantial leakage includes nicotinic acid-associated maculopathy, X-linked juvenile retinoschisis, various forms of retinitis pigmentosa and taxane-associated maculopathy (e.g., paclitaxel and docetaxel).

A review of the patient's medications showed that she had received weekly treatment with nanoparticle albumin-bound paclitaxel (130 mg/m<sup>2</sup>) several months prior to this visit. She was not taking nicotinic acid, and there were no symptoms or a family history suggestive of retinitis pigmentosa. The findings in this case were consistent with taxane-associated maculopathy. After consultation with her oncologist, the patient dis-

continued treatment with nanoparticle albumin-bound paclitaxel, and, on follow-up examination, her vision had improved to 0.32 and 0.625 in the right and left eye, respectively. Consistent with this improvement, clinical examination confirmed a mild decrease in the cystoid macular edema, although imaging was not performed. Unfortunately, the patient died of complications associated with breast cancer after the follow-up visit.

Nanoparticle albumin-bound paclitaxel is a microtubule-stabilizing agent used to treat advanced breast, pancreatic, lung and ovarian cancers. This formulation and other taxanes, including paclitaxel and docetaxel, are linked to a serious toxic effect: reversible cystoid macular edema.<sup>1-4</sup> Changes in vision have been reported in 13% of patients taking nanoparticle albumin-bound paclitaxel; visual disturbances were severe in only 1% of patients.<sup>1</sup> Most toxic effects related to nanoparticle albumin-bound paclitaxel have involved the anterior segment (e.g., dry eye, keratitis) and doses greater than 300–375 mg/m<sup>2</sup>.<sup>1</sup> Previous approaches used to treat taxane-associated maculopathy have included discontinuation of the drug, topical carbonic anhydrase agents and intravitreal injection of antivascular endothelial factor antibodies.<sup>2-5</sup> The efficacy of the pharmacologic approaches remains unknown because of the small number of patients. Clinicians caring for patients undergoing taxane-based chemotherapy should remain alert to changes in vision and consider prompt referral to an ophthalmologist, because cessation of treatment can be associated with improvement in vision.

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