

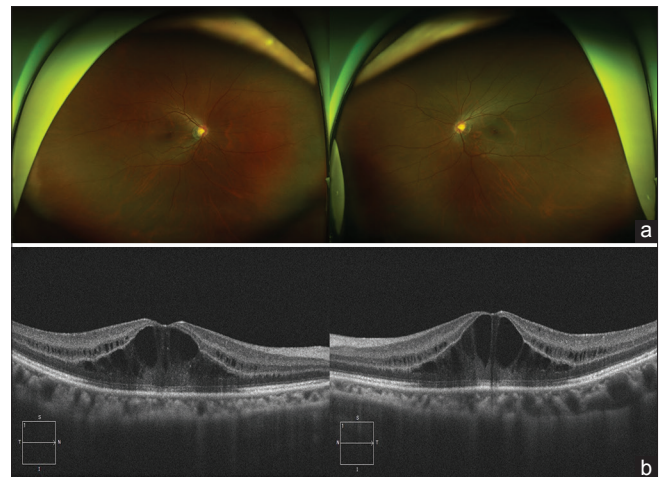
## Ultra-widefield angiographic imaging of albumin-bound paclitaxel-induced cystoid macular edema

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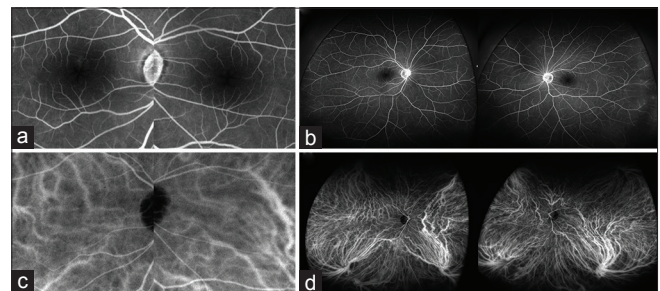
**Key words:** Albumin-bound paclitaxel, angiography, cystoid macular edema, paclitaxel, ultra-widefield angiography

A 43-year-old female presented with decreased bilateral visual acuity for 3 months. She was receiving albumin-bound paclitaxel (Abraxane<sup>®</sup>) chemotherapy due to pancreatic cancer for the previous 7 months. Cystoid macular edema (CME) was evident in both eyes on color fundus photography and optical coherence tomography imaging (Cirrus HD-OCT 4000; Carl Zeiss Meditec, Inc., USA) [Fig. 1a and b]. On UWF fluorescein angiography (FA) (P200DTx California; Optos, Inc., Marlborough, MA, USA), absent or minimal late phase leakage was observed at the fovea [Fig. 2a], and no abnormality on the peripheral retinal vessel was observed at the peripheral retina [Fig. 2b]. UWF indocyanine green angiography (ICGA) revealed almost no leakage at the fovea [Fig. 2c] and no abnormal findings, including increased permeability, large vessel dilation, and vortex ampullae at the peripheral retina [Fig. 2d]. Paclitaxel was discontinued and the regimen was replaced by Oxaliplatin (Oxalitin<sup>®</sup>) and Capecitabine (Xelobig<sup>®</sup>). Two weeks after withdrawal of the paclitaxel, improvement of CME was observed [Fig. 3a], and no CME was evident at month 3 [Fig. 3b].

The suggested hypotheses for CME after paclitaxel use include increased capillary fluid filtration, toxicity to Müller cells with subsequent intracellular fluid accumulation, and dysfunction of the retinal pigment epithelium resulting from the effect of taxanes on microtubule function.<sup>[1-3]</sup> In the present case, UWF FA findings added that there was no involvement of peripheral retinal vessel in the development of CME in the patient's eyes. In addition, choroidal hyperpermeability, which is considered a major cause of subretinal or intraretinal fluid in pachychoroid disorders, was not evident on ICGA, and there were no changes in the choroidal large vessels nor vortex



**Figure 1:** Ultra-widefield color fundus photography and optical coherence tomography at the patient's initial visit. (a) Color fundus photography revealed no abnormality in either eye. (b) Optical coherence tomography revealed cystoid macular edema in both eyes



**Figure 2:** Ultra-widefield fluorescein angiography and indocyanine green angiography at the patient's initial visit. (a) Late-phase ultra-widefield (UWF) fluorescein angiography (FA) of the fovea showed minimal leakage in the right eye and no leakage in the left eye. (b) Late-phase UWF FA of the peripheral retina revealed no abnormal findings in either eye. (c) Late-phase UWF ICGA showed no abnormal findings at the fovea in either eye. (d) Late-phase UWF ICGA revealed no abnormal findings, including choroidal vascular hyperpermeability, large vessel dilation, or vortex ampullae obstruction

ampullae. These results imply that the choroidal vessels are not involved in the development of CME caused by paclitaxel.

### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients

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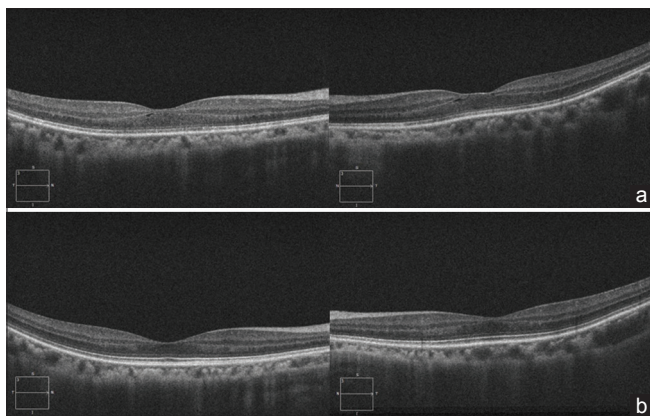
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**Figure 3:** Follow-up optical coherence tomography image of the patient after withdrawal of paclitaxel. (a) Optical coherence tomography (OCT) 2 weeks after cessation of the paclitaxel revealed disappearance of the cystoid macular edema. (b) OCT image at 3 months revealed no intraretinal fluid in either eye

understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

#### Conflicts of interest

There are no conflicts of interest.

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