This report highlights corneal epithelial changes in 3 patients receiving different antibody-drug conjugate (ADC) therapies that inhibit tubulin assembly: anetumab ravtansine for malignant pleural mesothelioma (Figure A), ado-trastuzumab emtansine for human epidermal growth factor receptor–positive ductal carcinoma of the breast (Figure B), and belantamab mafodotin for refractory myeloma (Figures C and D). The ADCs are a novel approach for treating cancer by using targeted monoclonal antibodies to direct cytotoxic payloads to malignant cells while reducing systemic toxicity. Nevertheless, some ADCs cause 2 types of corneal epitheliopathy that can coexist and be symptomatic. Microcystic intraepithelial changes (Figures A-C) presumably represent apoptotic epithelial cells and are caused by payload toxicity to the corneal epithelial stem cells, which reside at the peripheral corneal limbus and continually regenerate the epithelium. Because new corneal epithelial cells migrate from the periphery to the center, microcystic epitheliopathy begins in the peripheral cornea (Figure A) before affecting the center (Figures B and C). Superficial punctate epitheliopathy (Figure D) results from tear film dysfunction and is common, although typically mild, with many oncological treatments; rarely, it may
proceed to corneal ulceration. Both types of epitheliopathy can cause blurred vision (especially if central) and photophobia, and superficial epitheliopathy can cause ocular surface discomfort. Symptoms and signs gradually resolve after withholding or discontinuing treatment, and the microcystic changes are replaced by regenerated normal epithelium. Although these corneal findings are most frequent with belantamab mafodotin, which requires an ophthalmic examination prior to every treatment, patients with ocular symptoms receiving similar ADCs should be assessed for corneal changes.

Potential Competing Interests: Dr Patel is a consultant to GlaxoSmithKline plc, Senju Pharmaceutical Co, Ltd, Santen Inc, and Emmecell. Dr Patel is not responsible for prescribing belantamab mafodotin, which is made by GlaxoSmithKline, but he does manage the associated corneal epitheliopathy. Dr Dalvin reports no competing interests.

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