Corneal hydrops is the acute onset of corneal edema due to a break in Descemet membrane. This condition may be seen in individuals with advanced keratoconus or other forms of corneal ectasia. Recovery may take weeks to months with medical therapy, but may be accelerated by the placement of air or gas into the anterior chamber to slow the influx of aqueous into the cornea. Scarring, and sometimes corneal flattening, will occur after resolution of the episode.

Fig 1a: Acute corneal hydrops with severe inferior corneal stromal edema and overlying microcystic edema and bullae in the setting of advanced keratoconus. These photographs were taken 1 week after onset of the episode.
Fig 2: Anterior segment OCT of the patient in Figure 1 demonstrating the severe stromal edema in the area of involvement with underlying detachment of Descemet membrane in the area of rupture. Epithelial bullae can be seen overlying the area of stromal edema.
Fig 3a: Anterior segment OCT of a patient with keratoconus and severe corneal hydrops. These images demonstrate the large, cystic accumulations of intrastromal fluid that were present. Subsequent penetrating keratoplasty was required.

Fig 3b: Anterior segment OCT of a patient with keratoconus and severe corneal hydrops. These images demonstrate the large, cystic accumulations of intrastromal fluid that were present. Subsequent penetrating keratoplasty was required.

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