Purpose: To describe the clinical features and outcomes of corneal melt associated with Boston type I keratoprosthesis (KPro) implantation.

Methods: Medical records of patients who experienced corneal melt following KPro implantation were reviewed retrospectively.

Results: Sixty-six adult patients had KPro implantation during January 2004 to November 2010. Six patients had an underlying inflammatory ocular surface disorder. Four experienced corneal melt (6.1%) 5 to 42 months after the initial surgery. One patient was diagnosed with Sjögren’s syndrome as a result of diagnostic work-up following melt. Three patients were treated with systemic immunomodulatory therapy; two experienced fungal keratitis and subsequent endophthalmitis. KPro had to be explanted and replaced with donor cornea in all cases.

Conclusions: KPro associated corneal melt is uncommon and appears to occur in patients with pre-existing inflammatory disorders which might not have been previously diagnosed. Timely explantation of KPro and replacement with donor cornea may prevent a poor outcome.