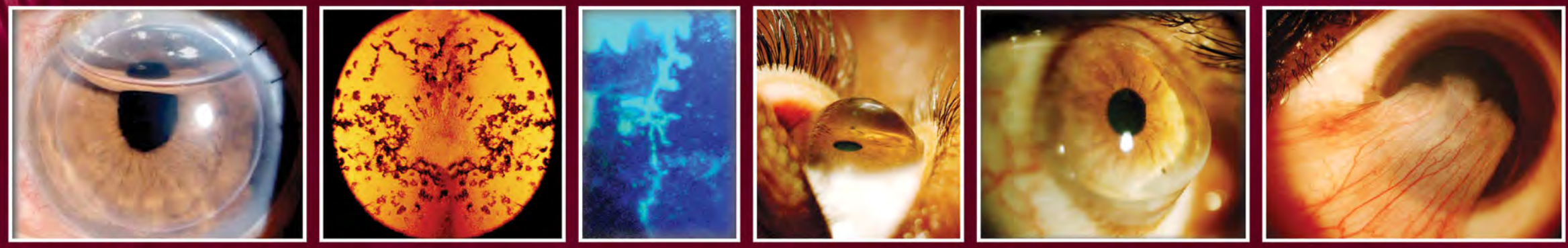

Color Atlas of CORNEA

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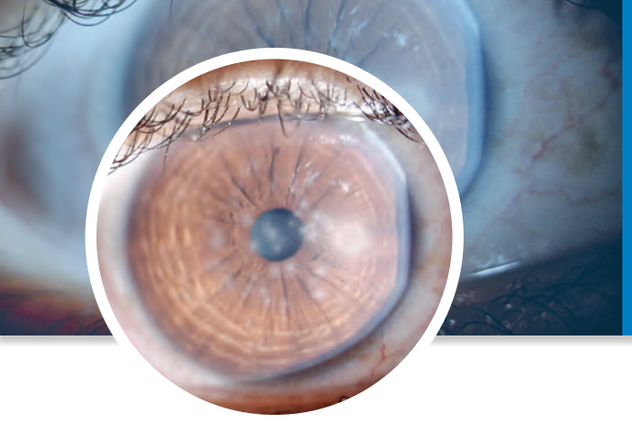


Contents

CHAPTER 3

Anterior Segment Congenital and Developmental Anomalies

HAAB'S STRIAE

They are seen in primary congenital glaucoma. Haab's striae are caused due to Descemet's membrane breaks because of the high intraocular pressure (IOP). They are areas of bare stroma bordered by two separated edges of Descemet's membrane. They become ridges due to deposition of hyaline. They are associated with acute overlying focal corneal edema when the IOP is high. After normalization of IOP, corneal edema may clear, but Haab's striae remain and may be associated with corneal scarring. They may be single or multiple, and are oriented horizontally or obliquely. In patients where the visual axis is involved, endothelial keratoplasty may be indicated.

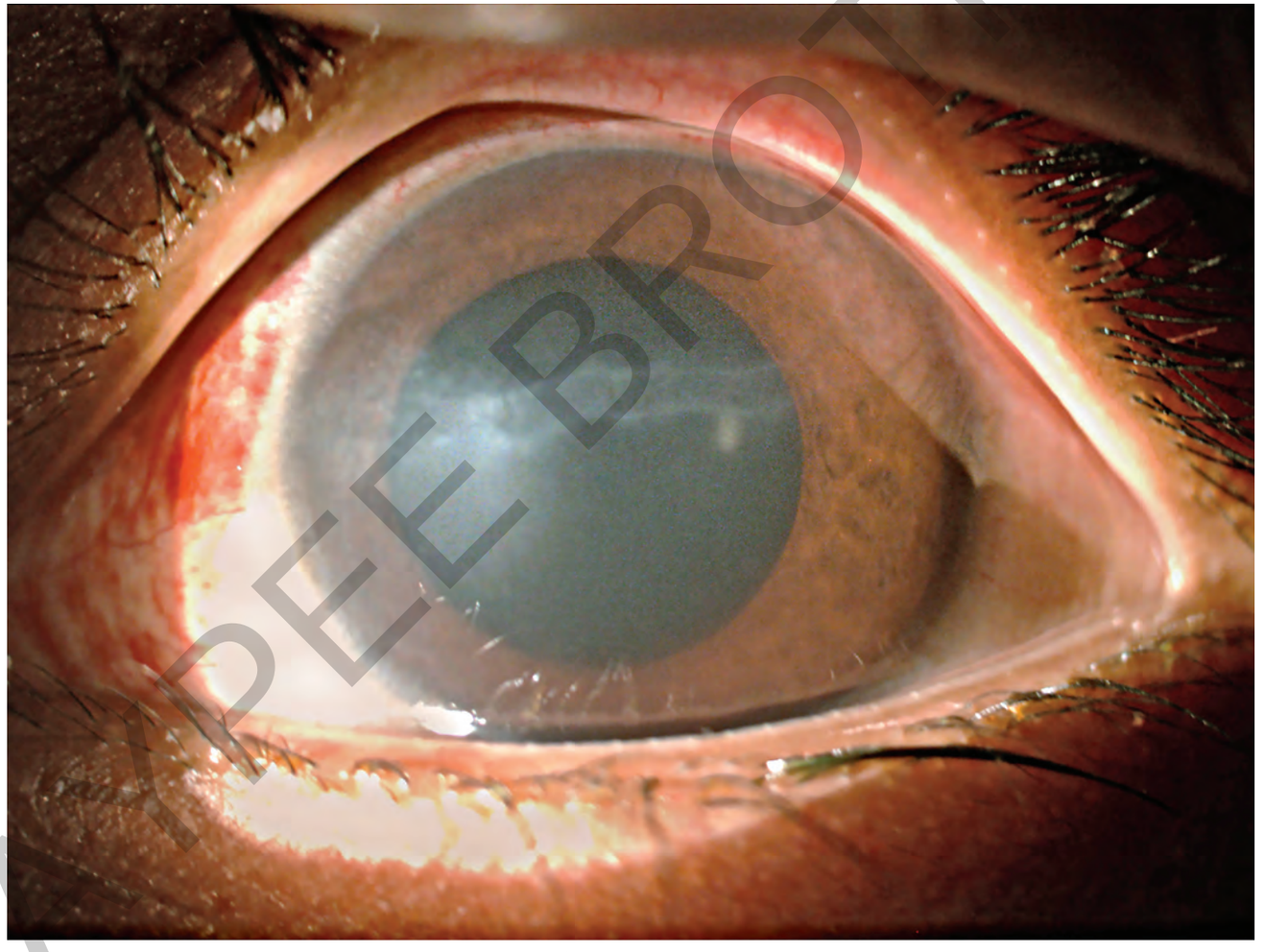
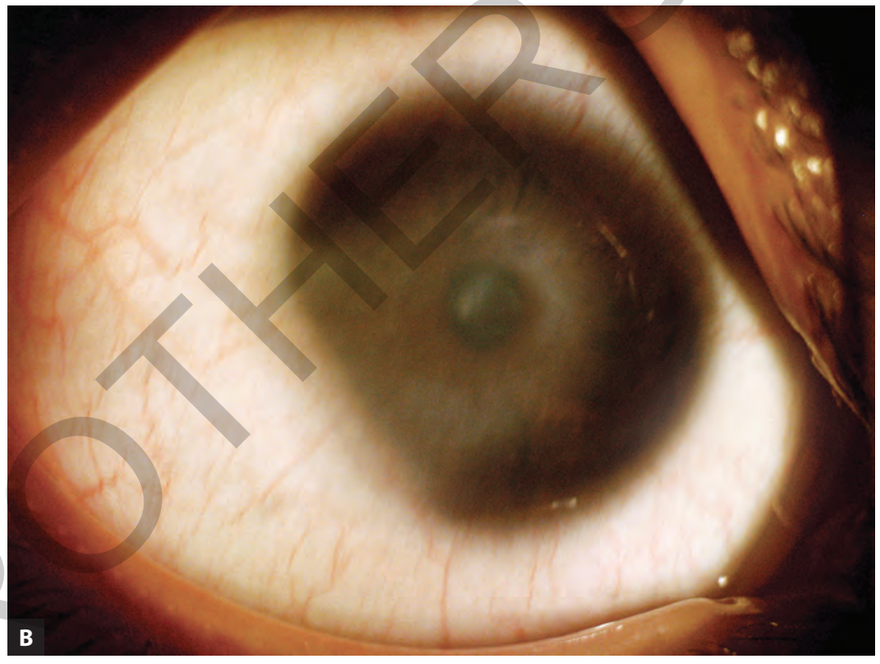
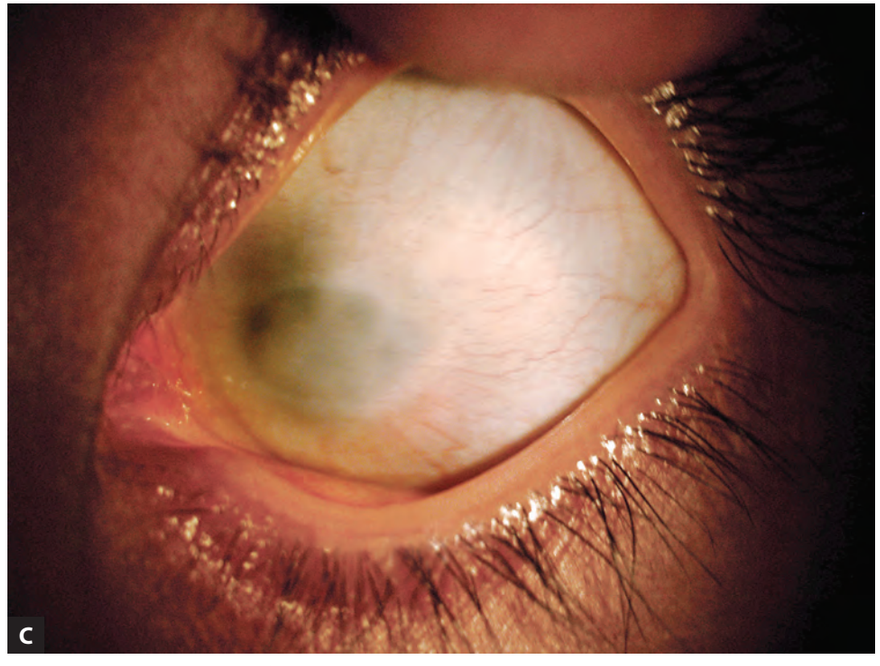


Fig. 1: Rail track appearance of Haab's striae seen in congenital glaucoma.

SCLEROCORNEA

It is a hereditary anomaly in which scleralization involves either the peripheral cornea or the entire cornea. It is nonprogressive, bilateral, and asymmetric. The opacification of cornea is smooth, white, and vascularized. It is an extension of sclera without limbal landmarks and is greater peripherally than centrally. Vessels are fine continuations of conjunctival vessels. The manifestation ranges from (1) isolated peripheral sclerocornea, (2) sclerocornea plana (with flat keratometry reading), (3) sclerocornea associated with anterior chamber cleavage anomalies with paracentral corneal adhesions, and (4) total sclerocornea where cornea is totally opaque and vascularized. Central cornea is not as densely opaque as peripheral cornea. Ultrasound biomicroscopy (UBM) is useful for diagnosis of sclerocornea, to assess the associated structural abnormalities and to help in surgical planning. It is necessary to rule out Peter's anomaly and microcornea. Surgery is performed only if other ocular structures are relatively normal. If central cornea is affected bilaterally, then penetrating keratoplasty is recommended.

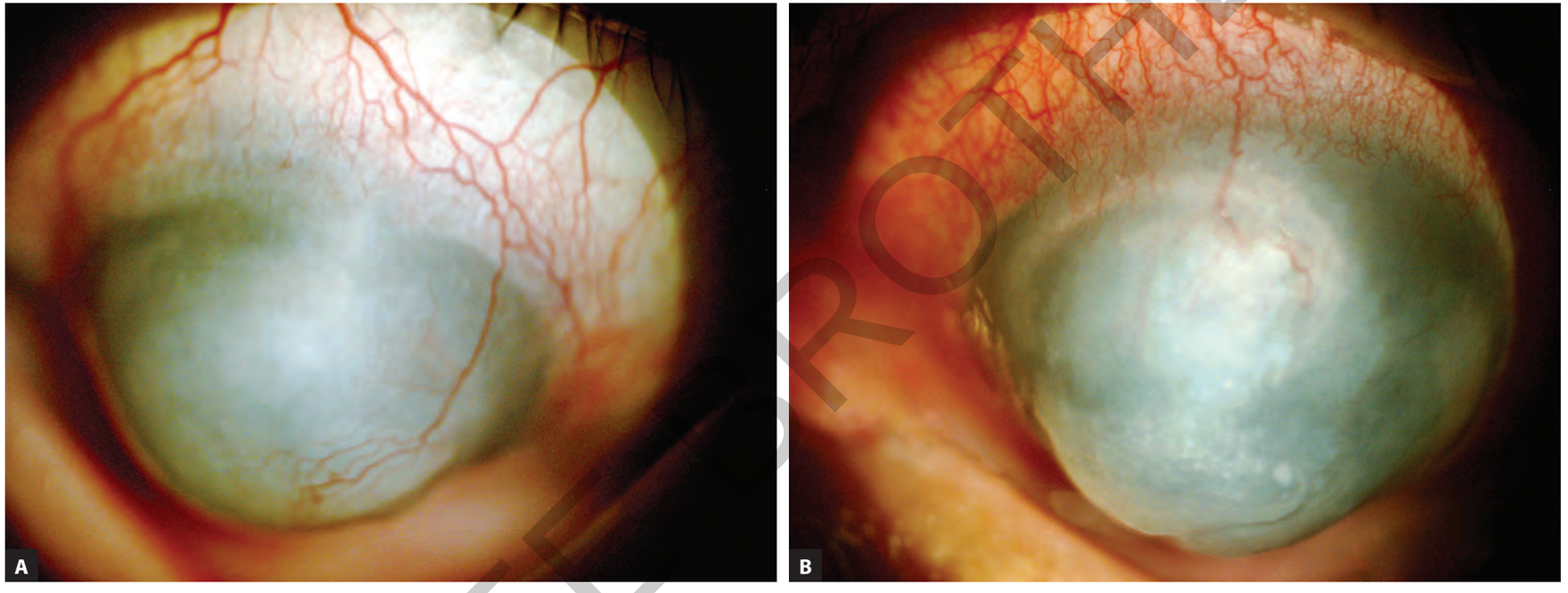




Figs. 2A to C: (A) A 4-year-old child with (B) right eye showing peripheral sclerocornea and (C) left eye showing total sclerocornea.

CONGENITAL CORNEAL ECTASIA

Congenital corneal ectasia occurs due to failure of the embryonic mesoderm to migrate and form the corneal endothelium and stroma of the iris. It happens at about 7 weeks of gestation. It is associated with corneal clouding and protrusion of the cornea. It can coexist with congenital staphyloma in which uveal tissue is also involved.



Figs. 3A and B: Bilateral congenital corneal ectasia with clouding of cornea, vascularization, and bullae.

Color Atlas of CORNEA

Salient features

- Collection of photos of corneal and ocular surface disorders attempts to cover both the common and uncommon problems serving as a quick visual guide
- Includes 15 chapters, 138 topics and 563 images with each photograph accompanied by a caption, offering insights into the diagnosis and management of corneal disorders
- Serves as a ready reckoner to ophthalmologists, specialists and postgraduates and kindle interest in students who wish to take up this specialty.

Sujatha Mohan MBBS DO FRCS FACS is an esteemed figure in ophthalmology, serves as the Executive Medical Director and Chief, Department of Cornea and Refractive Services, Rajan Eye Care Hospital, Chennai, Tamil Nadu, India, and also holds the position of Director at Rotary Rajan Eye Bank, Chennai. She did her MBBS at Thanjavur Medical College, Thanjavur and postgraduate education at Sankara Nethralaya, Chennai. She had an observership with Professor Harminder Singh Dua and Dr Sheras Daya in UK. With an impressive track record, she has successfully performed over 50,000 refractive surgery (LASIK Laser) procedures, 80,000 intraocular lens implantation surgeries, and more than 2000 corneal transplant surgeries. Renowned for her expertise, she has presented over 150 papers in both national and international conferences and has contributed to over 25 publications. Driven by a commitment to education, she has conducted over 100 Continuing Medical Education (CME) programs and organized more than 500 Eye Camps under the Blind Free India Project initiated by Chennai Vision Charitable Trust. Her remarkable contributions to the field have earned her numerous accolades, including recognition as one of the Top Women Ophthalmologists in the country in 2009 and the prestigious T Agarwal Gold Medal for the Best Woman Refractive Surgeon by the Chief Minister of New Delhi in 2010. She also received the Best Video Award in the Refractive Surgery category at APACRS in 2012 and the Dr G Sitalaskmi Gift of Sight Award from the Lions Club International in 2017. Additionally, she was honored with the Dr Nataraja Pillai Best Paper Award at the Sankara Nethralaya Alumni Meet in July 2018, further solidifying her reputation as a leader in the field of ophthalmology. In 2019, she was bestowed with the prestigious Nari Shakti Puraskar by the President of India at Rashtrapati Bhavan, in recognition of her outstanding Community Ophthalmology Service. She was also awarded the Rotary Nethra Pratipalika Award by Rotary International District 3232 for her significant contribution to Community Ophthalmology, particularly for her dedication to performing Free Cataract and Corneal Transplant surgeries for the past three decades.

R Swathi Nishitha MBBS DNB (AEH) Fellowship in Phacorefractive Surgery is currently a Research Fellow at Rajan Eye Care Hospital, Chennai, Tamil Nadu, India, marks her debut as an author with the publication of the Color Atlas of Cornea. Her journey in Ophthalmology began with a rigorous residency at Aravind Eye Hospital, Madurai and Postgraduate Institute of Ophthalmology, Salem, where she developed a profound interest and skill set in diagnosing and managing a wide array of ocular diseases. She further specialized in Cataract and Refractive Surgery through her fellowship at Rajan Eye Care, Chennai, where she not only excelled in her clinical skills but also embraced a passion for academic and clinical research.

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