Contents

SECTION I PTERYGIUM: THE WHAT, WHY AND WHEN?

1. Etiopathogenesis of Pterygium **3**
Shikha Gupta, Tushar Agarwal
- Ultraviolet Radiations *3* • Angiogenesis and Inflammation *4*
- Lymphangiogenesis *4* • Tumorigenesis *4* • Genetics *5*

2. Workup of a Case of Pterygium **9**
Shikha Gupta, Tushar Agarwal
- Clinical History Taking in a Case of Pterygium *9*
- Counseling Patient Regarding Expectations from Pterygium Excision *13*

SECTION II SURGICAL MANAGEMENT OF PTERYGIUM

3. Pterygium Excision with Conjunctival Autografting Using Glue **17**
Tushar Agarwal, Shikha Gupta, Namrata Sharma
- Indications *17* • Advantages and Disadvantages *17* • Surgical Procedure *18*

4. Pterygium Excision with Conjunctival Autograft (Suture Technique) **27**
Elsie Chan
- Technique *27* • Results *28* • Complications *29*

5. Conjunctival Excision and Extended Tenectomy with Conjunctival Autograft for Primary Pterygium **31**
Chintan Malhotra, Arun K Jain, Vikash Rohilla
- Indications *31* • Current Role *31* • Surgical Steps for Crater Technique *32*

6. Pterygium Excision with Inferior Conjunctival Autografting **37**
Qi Chen, Fan Xu, Min Li, Li Jiang, Jiping Xu
- Indications *37* • Current Role *37* • Outcomes *37* • Surgical Technique *37*

7. Pterygium Excision with Narrow-strip Conjunctival Autograft **42**
Angelique Pillar, Bennie H Jeng, David M Meisler, William J Dupps
- Indications *42* • Outcomes *42* • Surgical Technique *43*

8. Conjunctival Excision with Autograft Using Sandwich Technique **45**
Ali Fadlallah, Marc Fava, Steve Robinson, Catherine Choi, Georges El Mollayess, Samir Melki
- Indications *45* • Current Role *45* • Outcomes *45* • Surgical Technique *46*

9. Pterygium Surgery with Autograft Affixation Using Blood **48**
Kanhaiya Mittal, Shikha Gupta, Tushar Agarwal
- Indication *48* • Current Role *48* • Outcome *49* • Surgical Technique *50*

10. Pterygium Excision by Mini-flap Technique **53**
Kyoung Yul Seo, Sang Min Nam, Ji Won Jung
◆ Indications *53* ◆ Current Role *54* ◆ Outcomes *54* ◆ Surgical Technique *54*

11. Conjunctival Excision with Amniotic Membrane Grafting with or without Sutures **58**
Prafulla Maharana, Namrata Sharma
◆ Rationale for Use *58* ◆ Indications *59* ◆ Surgical Technique *59*
◆ Complications *60* ◆ Outcomes *61*

12. Minor Ipsilateral Simple Limbal Epithelial Transplantation **64**
Erick Hernandez-Bogantes, Enrique O Graue-Hernandez
◆ Principle of mini-SLET *64* ◆ Indications *64* ◆ Surgical Technique *64*

13. Antimetabolites in Pterygium Management **67**
Puneet Jain, Shikha Gupta, Tushar Agarwal
Mitomycin C (MMC) 67
◆ Indications *67* ◆ Contraindications *67* ◆ Advantages and Disadvantages *67* ◆ Outcomes *68* ◆ How to Prepare and Use? *68*
5-Fluorouracil (5-FU) 71
◆ Indications *71* ◆ Contraindications *71* ◆ Advantages and Disadvantages *71* ◆ Outcomes *71* ◆ How to Prepare and Use? *71*

14. Antivascular Endothelial Growth Factor Agents **74**
Shikha Gupta, Puneet Jain, Tushar Agarwal
◆ Indication *74* ◆ Contraindications *74* ◆ Advantages and Disadvantages *74* ◆ Outcomes *75* ◆ How to Prepare and Use? *77*

15. Adjunctive Therapy in Pterygium Management **79**
Puneet Jain, Shikha Gupta, Tushar Agarwal
◆ Beta Irradiation *79* ◆ Interferon alpha-2b (IFN α-2b) *81* ◆ OLOGEN® *82*

SECTION III MANAGEMENT OF RECURRENT PTERYGIUM

16. Conjunctival Excision with Limbal Conjunctival Autograft or Amniotic Membrane Grafting, with or without Mitomycin-C in Recurrent Pterygium **85**
Tarun Arora, Shikha Gupta, Tushar Agarwal
◆ Indications *85* ◆ Current Role *85* ◆ Outcomes *85* ◆ Surgical Technique *85*

17. Combined Ipsilateral Autologous Limbus and Homologous Amniotic Membrane Transplantation for Recurrent Symblepharopterygium **89**
Berthold Seitz, Cord RH Huchzermeyer

18. Sealing the Gap for Managing Pterygium **94**
Anny MS Cheng, Wei-li Chen, Scheffer CG Tseng
◆ Principle Behind the Technique *95* ◆ Advantages of Using Amniotic Membrane Transplant *96* ◆ Surgical Technique *96* ◆ Postoperative Care *103*

SECTION IV CHALLENGING SITUATIONS IN PTERYGIUM MANAGEMENT

19. Double-headed Pterygium: Split Conjunctival Grafts **107**
Neelima Aron, Shikha Gupta, Tushar Agarwal
◆ Indications of Split Conjunctival Grafting *107* ◆ Advantages of Split Conjunctival Grafting *107* ◆ Disadvantages of Split Conjunctival Grafting *107* ◆ Surgical Technique *107* ◆ Outcomes *111*

20. Management of Pterygium with Coexisting Cataract **112**
Koray Gumus, Cynthia I Tung, Zaina Al-Mohtaseb
◆ The Impact of Pterygium on Visual Parameters *112* ◆ Simultaneous Pterygium and Cataract Surgery *113* ◆ Timing of the Cataract Surgery: Before or After the Pterygium Excision? *113* ◆ Surgical Technique for Pterygium Surgery *114*

21. Management of Corneal Opacity after Pterygium Surgery **117**
Manpreet Kaur, Anubha Rathi, Tushar Agarwal
◆ Predisposing Factors *117* ◆ Prevention *117* ◆ Preoperative Considerations *118* ◆ Management *118*

22. Management of Pterygium with other Coexisting Ocular Surface Conditions **121**
Pooja Bandivadekar, Tushar Agarwal, Shikha Gupta
Pterygium and Ocular Surface Squamous Neoplasia
◆ Indications *121* ◆ Investigations *121* ◆ Management *121*
Corneal Opacity and Pterygium
◆ Management *123*

23. Pterygium and Glaucoma **125**
Shalini Mohan, Mohit Khattri, Surendra Kumar Sachan
◆ Timing of Surgery *125* ◆ Preoperative Considerations and Evaluation *125*

24. Complications after Pterygium Surgery **128**
Manpreet Kaur, Shikha Gupta, Namrata Sharma

25. Autologous Advanced Tenon Grafting Combined with Conjunctival Flap for Scleromalacia **136**
Jong-Soo Lee
◆ Materials for Ocular Surface Reconstruction *136* ◆ Indications *137* ◆ Advantages and Disadvantages *137* ◆ Surgical Technique *137*

26. Tectonic Lamellar Graft in Post Pterygium Surgery Corneoscleral Melt **142**
Anubha Rathi, Manpreet Kaur, Shikha Gupta
◆ Clinical Presentation *142* ◆ Pathophysiology *142* ◆ Approach to Management *142* ◆ Surgical Technique *143* ◆ Outcomes *144*

Index *147*