

Index

A

- Age-related macular degeneration (AMD)
 - active and inactive forms, 78
 - 3D HD OCT, NV origin, 79
 - extrafoveal adhesions, 79
 - exudative/dry, 77, 78
 - intravitreal application, 78
 - multifactorial disease, 77
 - neovascular
 - burden of disease, 14
 - incidence, 13–14
 - prevalence, 13
 - visual disability, 13
 - vitreo-macular adhesion, 13
 - optic disc and macula, 79–80
 - pathogenesis, 80
 - patient examination, 77
 - RAP lesions, 79
 - submacular surgery, 77
 - ultrasound, 77
- Aging vitreous
 - collagen, 30
 - human vitreous structure, 29
 - hyaluronan, 30
 - PVD (*see* Posterior vitreous detachment (PVD))
 - structural changes, 31, 33, 35
 - supramolecular organization, 30
 - vitreoretinal interface
 - ILL, 31
 - vitreous cortex, 31, 33–34
 - vitreous body
 - anatomy, 30, 31
 - collagen fibrils organization, 30, 33
 - Martegiani area, 30, 32
- AMD. *See* Age-related macular degeneration (AMD)

C

- Carl Zeiss Meditec™, 56, 60
- Cirrus HD-OCT™, 57–60, 63
- Cone outer segment tip (COST), 84

D

- Diabetic macular edema (DME)
 - epidemiology

- burden of disease, 16
- diabetic retinopathy and VMA, 14–15
- incidence, 15–16
- prevalence, 15
- vision loss, 15
- vitreo-macular adhesion, 14
- etiology, 74

E

- Epiretinal cell proliferation
 - cellular elements, 49–50
 - definitive identification, 48
 - hyalocytes, 49
 - hypotheses, 48
 - immunocytochemical analyses, 48
 - morphology, 48
 - retinal glia, 48–49
- Epiretinal membrane (ERM)
 - associated disorder, 71
 - differential diagnosis, 72
 - epidemiology
 - burden of disease, 11
 - incidence, 11
 - prevalence, 10–11
 - vitreo-macular adhesion, 9, 11
 - signs, 71
 - staging and prognosis, 71
 - symptoms, 70
 - treatments
 - ELM and COST, 84
 - fibrillary changes, 85
 - histological study, 84
 - internal-limiting membrane peeling, 84
 - IS-OS junction, 84
 - metamorphopsia and decreased visual acuity, 83
 - ocular diseases, 83
 - recurrence rate, 84
 - release retinal distortion, 83
 - spectral domain OCT, 84–85
- Externallimiting membrane (ELM), 84

F

- Fourier domain OCT, 55–57

H

Heidelberg Engineering™, 57

I

Inner segment-outer segment (IS-OS)
junction, 84

Internal limiting lamina (ILL), 31

Internal limiting membrane (ILM)

- fibronectin, 24
- lamina densa/lucida, 22, 24
- lamina reticularis, 22, 24
- laminin, 24
- proteoglycans, 24
- thickness, 24
- type I and type IV collagen, 24

L

Lamellar macular holes (LMH)

clinical manifestations, 68–69

treatments

- biomicroscopy, 87
- chronic cystoid macular oedema, 88
- diagnosis, 87–88
- foveal thickness/VA deterioration, 89
- normal/tractional ERM, 88–90
- spectral domain OCT, 88
- thickened/dense ERM, 88–90

M

Macular holes (MH)

Amsler grid, 67, 68

differential diagnosis, 69–70

epidemiology

- burden of disease, 9
- incidence, 9
- prevalence, 8–9
- vision loss, 9
- vitreo-macular adhesion, 8

lamellar holes, 68–69

laser beam aiming test, 67

myopia, 69

repaired macular holes, 70

staging and prognosis, 68, 69

symptoms, 67

trauma, 69

treatments

- disease and refinements, 85
- hydration theory, 85–86
- internal-limiting membrane peeling, 86
- intraocular gas/silicone oil, 86
- long-standing gas, 87
- OCT images, 87
- removal cortical vitreous, 85
- with and without ERM, 87
- Watzke-Allen (W/A) test, 67–68

Myopic traction maculopathy (MTM), 73

N

Neovascular age-related macular degeneration

epidemiology

- burden of disease, 14
- incidence, 13–14
- prevalence, 13
- visual disability, 13
- vitreo-macular adhesion, 13

risks, 80

Noise reduction

- Carl Zeiss Meditec™, 60
- Cirrus HD-OCT™, 57, 59
- RPE-fit slab, 60–62
- Spectralis OCT™, 57, 59

O

Optical coherence technology (OCT)

AMD, 77–78

Carl Zeiss Meditec™, 56

Cirrus HD-OCT™, 57, 58

Fourier domain, 57

Heidelberg Engineering™, 57

signal-to-noise ratio, 57

Spectralis OCT™, 57, 59

subtle changes, 56

triamcinolone, 63, 64

P

Patellar fossa, 22

Pathophysiology

aging vitreous (*see* Aging vitreous)

epiretinal cell proliferation

- cellular elements, 49–50
- definitive identification, 48
- hyalocytes, 49
- hypotheses, 48
- immunocytochemical analyses, 48
- morphology, 48
- retinal glia, 48–49

ILM, 43–44

persistent vitreo-macular adhesion

- cell-cell and cell-matrix adhesion protein, 44–45
- mechanical effects, 45
- optical coherence tomography, 45
- ultrasound, 45
- vitreopapillary adhesions, 45

vitreo-macular traction disorders, 43

vitreoschisis

- anomalous PVD, 45
- scanning electron microscopy, 46
- transmission electron microscopy, 46
- vitreous cortex collagen, 45–47
- vitreous cortex remnants, 47–48

Persistent vitreo-macular adhesion

- cell-cell and cell-matrix adhesion protein, 44–45
- mechanical effects, 45
- optical coherence tomography, 45

- ultrasound, 45
 - vitreopapillary adhesions, 45
 - Pharmacologic vitreolysis
 - classification, 95–96
 - clinical agents
 - collagenase, 107
 - hyaluronidase, 107–108
 - ocriplasmin, 109–110
 - plasmin, 109
 - tPA, 108–109
 - vitreosolve, 108
 - complications, 95
 - exacerbating role, 105
 - indications, 106–107
 - less traumatic treatment, 105
 - liquefaction and vitreoretinal separation
 - chondroitinase, 97
 - collagenase, 96
 - dispase, 96–97
 - hyaluronidase, 96
 - microplasmin, 99–100
 - nattokinase, 97–98
 - plasmin enzyme, 98–99
 - plasminogen activators, 98
 - RGD peptide, 97
 - minimally invasive treatment, 105
 - non-surgical vitreo-macular separation
 - combination treatments, 114–115
 - inflammatory syndromes/trauma, 114
 - optimizing drug delivery, 114
 - proliferative diabetic retinopathy, 115
 - visualization improvement, 115–116
 - optimization, 100–101
 - PVD, 95, 115
 - retinal disorders, 105
 - synchysis, 95
 - vitreolytic agents, 106
 - Posterior vitreous detachment (PVD)
 - anomalous, 45
 - macular holes, 39–40
 - macular pucker, 38–39
 - posterior anomalous and VMA, 38
 - retinal tears and detachment, 38
 - dense collagen fibril, 33, 38
 - epidemiology, 34–36
 - pathogenesis, 36
 - thick collagen fibrils, 32, 35, 38
 - PVD. *See* Posterior vitreous detachment (PVD)
- R**
- Retinal angiomatous proliferation (RAP)
 - lesions, 79
 - RPE-fit slab visualization
 - Carl Zeiss Meditec™, 60
 - Cirrus HD-OCT™, 60–62
 - horizontal en face image, 60
 - software feature, 59
 - spatial correlation, 60
- S**
- Spectral domain OCT (SD-OCT), 84–85
 - Spectralis OCT™, 57, 59, 60, 63
- T**
- Three-dimensional visualization systems
 - Cirrus HD-OCT™, 60, 63
 - Spectralis OCT™, 60, 63
 - vitreo-retinal adhesion, 62, 64
 - vitreo-retinal traction, 62, 64
 - vitreo-schisis, 60, 64
 - Tissue plasminogen activator (tPA), 108–109
- U**
- Ultrasound, 55–56
- V**
- Vitrace®, 107
 - Vitreofoveal traction syndrome (VFTS), 73
 - Vitreo-macular adhesion (VMA)
 - diabetic macular edema, 14–16
 - EM, 9–11
 - macular hole, 8–9
 - neovascular AMD, 13–14
 - prevalence and incidence, 16, 17
 - retinal disorders, 16
 - vitreo-macular traction syndrome, 12
 - Vitreo-macular traction syndrome (VMTS)
 - AMD, 2
 - diabetic traction maculopathy, 73–74
 - differential diagnosis, 74, 90
 - epidemiology
 - burden of disease, 12
 - incidence, 12
 - prevalence, 3, 12
 - vitreo-macular adhesion, 12
 - medical history, 1
 - MTM, 73
 - myopia, 2
 - occurrence, 2
 - presbyopia, 3
 - signs, 72–73
 - symptoms, 72
 - treatments
 - cost and morbidity, 3
 - dumbbell-shaped region, 90
 - enzymatic vitreolysis, 91
 - glial migration, 91
 - horizontal vitreous surface adhesion, 91, 92
 - nonvisual acuity assessments, 4–5
 - posterior vitreous detachment, 90–91
 - shortfalls treatment, 3–4
 - variant, 90
 - visual acuity assessments, 4
 - VFTS, 73
 - vitreoretinal separation, 2

Vitreoretinal interface

aging vitreous

ILL, 31

vitreous cortex, 31, 33–34

anatomy

core vitreous, 22, 23

hyalocytes, 23–24

ILM, 24

Müller's cell, 22, 24

patellar fossa, 22

vitreous base, 22

vitreous cortex (*see* Vitreous cortex)

embryology, 21–22

functions, 24–25

history, 21

Vitreoschisis

anomalous PVD, 45

scanning electron microscopy, 46

transmission electron microscopy, 46

vitreous cortex collagen, 45–47

vitreous cortex remnants, 47–48

Vitreous cortex, 24

aging vitreous, 31, 33–34

collagen fibers, 23

complex mucopolysaccharides, 23

eosinophilic vitreous fibrils attachment, 22–23

fibrocytic and macrophagic cells, 23

Weiss' ring, 23

Wieger's ligament, 23

VMA. *See* Vitreo-macular adhesion (VMA)VMTS. *See* Vitreo-macular traction syndrome (VMTS)