

Masterclasses

M1.5**Diabetic Eye Disease: What's New?****10:45 Room 221****Surgical Management of Diabetic Eye Disease: Recent Advances**

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Diabetic retinopathy (DR) is a chronic ocular complication of diabetes that is seen to some degree in all diabetes. The rate of progression varies depending on the duration of the disease, glycaemic control, hypertension and genetics. Ocular ischaemia, a result of diabetes-related microvascular injury and reduced perfusion, is the primary stimulus for retinal and iris neovascularisation. Proliferative diabetic retinopathy (PDR) currently remains the more dramatic and sight-threatening complication needing prompt and effective treatment.

Proliferative DR is not only characterised by retinal and iris neovascularisation, and vitreous haemorrhage (VH) but also includes rubeosis iridis, neovascular glaucoma, development of pre-retinal fibrous membranes with tractional retinal detachment (TRD) and sometimes a combined tractional-rhegmatogenous DR. Advanced PDR can include anterior fibrovascular proliferation leading to cyclitic membrane formation and hypotony.

Panretinal laser photocoagulation (PRP) is the standard of care for the treatment of severe non-proliferative and proliferative DR. It works by reducing oxygen demand and decreasing ischaemic-related VEGF levels, thereby resulting in regression of neovascularisation. Studies showed that PRP is able to reduce the risk of severe visual loss by at least 50%.

Pars plana vitrectomy (PPV) is indicated in eyes with advanced DR, including PDR with non-clearing VH and TRD involving or threatening the macula. Fibrovascular proliferations will be removed and PRP is applied intra-operatively. Peri-operative use of anti-VEGF as an adjunctive therapy is also advocated so as to reduce the complication of intra-operative bleeding.

In early NVG cases, PRP remains the mainstay of treatment. However, when synechial angle closure has already developed, PRP may not have significant effect on intraocular pressure (IOP). Surgical intervention with either filtration surgery or a shunt procedure is then indicated to control the IOP.