A t the 11th annual EURETINA meeting in London, UK, Borja Corcostegui MD, Spain outlined a grading system for proliferative diabetic retinopathy based on the amount of vitreoretinal attachments and its relationship to the likely prognosis of the disease.

Delivering the EURETINA lecture, he said the goals of surgery in proliferative diabetic retinopathy are to remove the posterior hyaloid membrane and vitreous attachment in order to clear the opacity and traction.

In eyes with type zero proliferative diabetic retinopathy there is a total posterior vitreous detachment. The main indication for surgery in such cases would be a vitreous haemorrhage, in which case a core vitrectomy should be performed to clear the opacity.

In Type 1 disease there are at most just a few focal vitreoretinal attachments located at the optic disc or at the vascular arcades, he noted. The results of surgery in both Type 0 and Type 1 disease is generally pretty good with a low likelihood of retinal detachments or epiretinal membranes, he added.

However, the incidence of post-surgical complications increases to around five per cent in eyes with Type 2 proliferative diabetic retinopathy, Dr Corcostegui said. The diagnostic features of that stage of disease include a broad vitreoretinal attachment of at least two disc diameters. There may or may not be an underlying traction or combined traction under a rhegmatogenous retinal detachment.

In Type 3 disease the vitreous is attached at the disc along the vascular arcade and over the macula but is detached between the arcades and the vitreous base attachments in the macula. In this group of patients the rate of complications is about seven per cent.

In a patient with Grade 4 disease the vitreous is attached to disc out to the vascular arcade and the only area of vitreous detachment is over the macula. In such cases the risk of epiretinal membrane and retinal detachment reaches eight per cent to 10 per cent. In Type 5 disease there is a total vitreous attachment and the risk of the complications rises to 12 per cent to 15 per cent.

Dr Corcostegui said that in eyes with Type 2 to Type 5 disease he generally injects an anti-VEGF agent four to seven days prior to performing surgery, to dampen down the neovascularisation and reduce bleeding.

He then proceeds to remove the proliferative tissue using one of three techniques. In the simpler cases he will use the vitreous cutter on its own, in the more difficult cases he will use bimanual dissection with vitreous cutter and forceps or bimanual dissection with vitreous cutter and scissors. All cases can be assisted with viscodissection.

He noted that in most cases patients are unlikely to require more than three sclerotomies. He added that modern vitreoretinal surgical technology has several advantages including more efficient vitreous cutters with faster duty cycles which can be used in cannulas from 20 gauge to 27 gauge.

“But the most important thing is to not break the retina and to remove the proliferative tissue. I think the size of the instrumentation is less important. What is most important is to leave the retina completely free of traction,” he said.

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Borja Corcostegui MD

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