

Proliferative diabetic retinopathy – treatment with argon laser

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Purpose:

To evaluate the success rate of laser photocoagulation in relation to the stage and site of neovascularizations in the case of proliferative diabetic retinopathy.

Methods:

Retrospective review of 122 eyes (89 patients) with proliferative diabetic retinopathy treated by panretinal photocoagulation using argon laser. Mean follow-up period is 4.7 years.

Results:

Complete regression of neovascularization was achieved in 69% eyes, partial regression in 21% eyes. In 10% eyes laser treatment failed. The final visual acuity (VA) was 20/40 and better in 41% eyes, worse than 20/200 in 11%. The final VA remained unaltered in 70% eyes, deteriorated in 19%. A better final VA was achieved in 11% (VA better at least 2 lines on the Snellen charts). We found that the poorest therapeutic answer to panretinal photocoagulation is obtained in advanced neovascularization of the disk. On the other hand, the best result – complete regression of neovascularizations in 100% - we achieved in the group, in which neovascularization was limited to the disk area. Regression of neovascularizations in the group of retinal neovascularization was achieved in 98%.

Conclusion:

It is assumed that advanced neovascularization probably displays a certain grade of autonomy, which is the cause of a poorer response to panretinal photocoagulation. We confirm former observations that if signs of regression of neovascularizations develop early, within 3-6 weeks after the onset of laser photocoagulation, this may be considered a prognostically favourable sign.

Take-home message:

In the cases of disk neovascularizations in proliferative diabetic retinopathy, if more advanced neovascularizations were present, a higher percentage of laser treatment failures would have been found – early diagnosis and early laser treatment of the disk neovascularization is very important.

