

Treatment of retinal detachment with congenital optic pit by krypton laser photocoagulation

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I have read with great interest the paper by Annesley et al. [1].

I feel, however, that there are several questions in this paper which require clarification. The first of these concerns the number of laser applications. I would like to point out that the number of laser spots applied by the authors appears to be excessively high, particularly where an extremely sensitive area such as the papillomacular bundle is concerned. To be precise the authors mention 48 spots given in the first case, 116 spots in two sessions in the second case, 256 spots in two sessions in case three, 179 in case 4, and 186 spots in three sessions in case 5.

Our own experience with follow-up periods between 3 and 10 years has shown that total or almost total resolution of the subretinal fluid is achieved with a far smaller number of spots, i.e., no more than 10 in a single row and in only one session [2].

The use of the krypton laser certainly spares the nerve fiber layer, as does the use of argon laser in the area of the papillomacular bundle in the case of a detached retina. The superiority of the krypton as opposed to the argon laser is evident when the application extends to areas of the attached retina. The question which arises, however, is whether such an extension is really necessary.

The second question to which the paper supplies no answer is whether the cases treated had had previous attacks and in what condition the pigment epithelium of the papillomacular area was before treatment. Knowledge of these data is indispensable if one is to assess correctly the status of the pigment epithelium and the visual fields after the prolonged presence of subretinal fluid (in 3 out of the 5 cases described by the authors this exceeded 1 year). The 14 cases described in our paper of 1977 and 7 further cases we have studied since then have shown that the presence of subretinal fluid for over 1 year causes irregular damage to the pigment epithelium of the affected area.

In our own successfully treated cases (5 out of 6) mentioned in our publication, visual acuity improved after absorption of the subretinal fluid, but never reached the level of 6/6. The success rate in the restoration of visual acuity claimed by the authors (6/6 in 4 out of 5 cases) would seem to be rather the exception than the rule.

References

1. Annesley W, Brown G, Balling J, Goldberg R, Fischer D (1987) Treatment of retinal detachment with congenital optic pit by krypton laser photocoagulation. *Graefe's Arch Clin Exp Ophthalmol* 225:311-314
2. Theodossiadis G (1977) Evolution of congenital pit of the optic disk with macular detachment in photocoagulated and nonphotocoagulated eyes. *Am J Ophthalmol* 84:620-631

Received October 19, 1987

Reply

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The authors wish to thank Dr. Theodossiadis for his interest in our article. We will attempt to answer his questions.

In each case, the krypton laser burns were applied in a confluent fashion adjacent to the optic disc in the region of the optic pit. The burns were carried slightly into the normal retina both superior and inferior to the temporal serous retinal detachment. Theoretically, the retina begins to fuse to the retinal pigment epithelium in areas of attached retina, with retinal reattachment thus occurring inward from the edge of the detached retina. In all of our cases, the burns were placed deeply at the level of the retinal pigment epithelium and outer retina, the superficial retina being spared. We believe that at least a moderate amount of tissue destruction, and subsequently more than just a few laser burns, is necessary to induce a sufficient inflammatory response to allow the sensory retina and retinal pigment epithelium to reattach. Despite the relatively high number of burns in the papillomacular bundle, we did not observe an adverse effect upon visual acuity.

It appears that the macular retina can tolerate prolonged periods of serous retinal detachment secondary to an optic pit and still remain quite viable, as evidenced by the improvement in visual acuity in our cases following flattening of the retina. We have observed intraretinal cystic changes to disappear once the detached retina has reattached. Although mild macular pigmentary changes were observed in several of our cases after retinal reattachment, good visual acuity returned in these eyes. However, the development of a macular hole, as occurred in one of our cases, probably precludes the restoration of good central visual acuity.