Pituitary Ablation for Diabetic Retinopathy

"Background"[1] or "simple"[2] diabetic retinopathy is characterized by the presence of microaneurysms, haemorrhages, and exudates. In contrast, the more severe retinopathy, featuring new-vessel formation, vitreous haemorrhages, and fibrous-tissue proliferation, has been termed "malignant".[2]

The milder form is common among diabetics, and it becomes more so with the duration of the diabetes and the age at which the disease was diagnosed. Spontaneous regression sometimes occurs.[2] The prognosis for vision is good, especially in young patients, and the risk of blindness has been estimated to be 3% over a five-year period.[3] It would be difficult, therefore, to show that treatment given at this stage of the disease improved the prognosis for vision unless it proved possible to predict those patients likely to develop more serious disease. Perhaps fluorescein retinal photography, which displays the retinal vasculature,[4] might prove useful in this respect.

Estimates of the incidence of malignant retinopathy have varied from 20%[5] to 6%[2] of all cases of diabetic retinopathy. The prognosis for vision is bad, and about half such patients are blind within five years.[6-8] The prognosis is again somewhat better in juvenile-onset than in maturity-onset diabetics. A wide variety of treatments has been used.[9] In an occasional patient whose diabetic control was poor the retinopathy has dramatically improved with institution of good control.[10] Furthermore, E. M. Kohner and her colleagues[11] have reported that some features of the condition ceased to progress over a one-year period in patients who achieved very good diabetic control. Another method of treatment is by photocoagulation,[12] in which small areas of retinal destruction are produced by light or laser beams. Resolution of new blood vessels has been reported with this technique, possibly by diminishing the metabolic requirements of the retina and so in some way reducing the stimulus for the formation of new vessels.

Ablation of the pituitary has been undertaken by a variety of techniques in different centres. Each procedure has certain risks,[13] but retinal haemorrhages and new vessel formation usually recede after operation, though sometimes the results have not been so satisfactory.[14] But established fibrous tissue proliferations and hard exudates are unaffected. An early improvement in vitreous haze is often seen, and fluorescein photography shows decreased leakage of dye from the abnormally permeable new vessels within two to three weeks.[15] Visual acuity generally improves too or at least remains stabilized. Findings reported at a recent symposium[16] showed that 75% of 708 patients followed up for at least six months after operation showed no further deterioration of their vision. The majority of these patients had the juvenile-onset type of diabetes. This figure can be compared with the estimate, mentioned above, that half such patients are blind within five years[6-8] and with other figures. Thus K. Lundbaek and his colleagues[17] found serious deterioration of vision in 8 out of 19 eyes among patients not treated by pituitary ablation as compared with 2 out of 17 eyes of patients submitted to operation. The Hammersmith Hospital group[18] found significant deterioration of visual acuity in patients in a control group and in others with less than total pituitary ablation, by contrast with a possible improvement in vision in patients who had had total ablation. The long-term results of operation have yet to be established, but R. A. Field and his colleagues[19] found that about a third of patients followed up for more than five years showed a relapse after an initial improvement of their retinopathy.

At present, and in particular until the results of photocoagulation are clearer, the choice of treatment for patients with malignant retinopathy is difficult to make. If previous diabetic control has been conspicuously bad it is reasonable to strive for better and to observe progress of the retinopathy for a limited period. But the retinopathy can rapidly reach an irreversible stage. Pituitary ablation is not indicated if the condition is mainly due to hard exudates or has progressed to fibrous tissue proliferation which threatens macular vision in both eyes. The operation is also contraindicated if the patient's renal function is impaired, for this is not improved and may deteriorate further.[20] Finally, any decision should take account of the considerably shortened life expectancy of such patients,[5 6] mainly because of the cardiovascular complications of diabetes. But after all these factors have been considered there is still a relatively small group to whom pituitary ablation is likely to bring benefit.

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Diseases of the Urinary Tract

Some specialties develop more rapidly than others, and in recent years one of the fastest growths has been in the field of urinary disease. In fact, doctors who qualified ten years ago or more could not have been taught many current fundamental concepts of renal disease, nor was there treatment by home dialysis or transplantation. This week the *B.M.J.* starts a new series of "Current Practice" articles on diseases of the urinary tract. Besides articles on the newer aspects of the specialty this series will include contributions on established methods of managing renal disorders. Taken together, the articles contain much useful information for any doctor who wishes to bring himself up to date.