New Ways with Diabetic Retinopathy

For various reasons the study of diabetic retinopathy has recently increased. The lesion has become one of the commonest causes of registration as a blind person in the Western world. Moreover, new techniques of investigation and treatment have been developed. The most notable of these are the examination of the retinal circulation by fluorescein angiography and the treatment of patients by photocoagulation and pituitary ablation.

Diabetic retinopathy can cause blindness in several ways. For instance, new blood vessels may develop in the retina and later grow forward and become surrounded by glial tissue (retinitis proliferans). These changes are known as proliferative retinopathy and cause blindness either by haemorrhage or by secondary retinal detachment. In very early and selected cases photocoagulation can be of benefit, and it is for this type of retinopathy that pituitary ablation is most useful.

But the majority of the people who go blind do so because of macular disease (maculopathy), with non-proliferative retinopathy. The macula may be directly affected by hard exudates or haemorrhage, but the main cause of visual loss is retinal oedema. The oedema can result from leakage of diseased local capillaries or may spread from oedema at a near-by focus of retinal hypoxia; rarely a group of new vessels can cause this condition. Microaneurysms appear to have little effect on the vision, and soft exudates (retinal infarcts) seldom appear at the macula. The ophthalmoscopic changes in patients with macular oedema may be slight, though fluorescein angiography has shown that they are more considerable than is commonly thought. This technique will show up morphologically abnormal or closed blood vessels, and leakage of the dye indicates diseased vessels, since fluorescein does not leak out of healthy retinal blood vessels. Investigations with this technique can often disclose the precise source of macular oedema.

In photocoagulation a xenon arc light is focused on the retina, and the light is converted into heat by the pigment of the retina and the choroid to produce a burn and later a chorioretinal scar. This scar can occlude vascular lesions and the new vessels. Similarly a ruby laser can be used. Its effect depends on converting light into heat by contact with the pigment inside the eye. It is for this reason that these two forms of photocoagulation are effective in occluding only those new blood vessels lying in the plane of the retina (therefore close to pigment). They are of no use when the vessels have grown forward or are surrounded by extensive glial tissue. Likewise the new vessels emanating from the optic disc or situated between the disc and macula can be treated, but the resultant chorioretinal scars may produce such a profound loss of vision as to make the treatment pointless.

However, new forms of lasers are being developed, and the argon laser may prove to be an advance. Argon light, which is green, is absorbed by haemoglobin. Thus heat can be generated in the blood vessels and is not dependent solely on contact with the pigment in the retina and choroid. This type of laser may offer considerable help in dealing with new blood vessels growing forward or those situated in the dangerous disc-macular area.

So far there have been few reports on the treatment of diabetic maculopathy by photocoagulation. A recent study from the Birmingham Eye Hospital by K. Rubinstein and V. Myska1 gives encouraging results from the treatment of 40 diabetic patients; 44 eyes were treated and where possible the other was used as a control. The rationale of the treatment was based on the hypothesis that “elimination of diseased and new blood vessels surrounding a hypoxic focus in the vicinity of the macula would restore the local as well as the macular metabolism to normal with regression of oedema as well as of secondary hard deposits.” They used gentle xenon-arc photocoagulation after the appropriate fluorescein investigations. After treatment the visual acuity remained unchanged in half the patients but improved in the others. None of the eyes showed a deterioration of vision. This contrasts with the controls, in whom a third of the untreated eyes showed a decline in vision, though the remainder were unchanged or improved. The authors consider their work to be a preliminary study and make no exaggerated claims for it, but the results obviously warrant its continuation.


General Practice Observed

The past few weeks has seen a spate of reports on general practice all in one way or another concerned with its quality. In June the Royal College of General Practitioners published a study1 by Dr. D. H. Irvine comparing teaching practices with a selection of “typical” practices reported on in an earlier survey by the B.M.A. Planning Unit.2 One of the main conclusions was that teachers and their practices “tend to be better qualified and to be more active in education, research and voluntary professional work; their surgeries are more often better equipped, staffed and managed.” There were, of course, wide variations but overall Irvine doubted “the capacity of general practice to offer universal vocational training in the immediate future if high standards of practice are to be obtained.”

This is the major dilemma facing general practice today. It is underlined by another survey by the Department of Health,3 which found that though there has been a welcome improvement in the numbers entering practice this “may be largely attributed to doctors who have had inadequate training and gained insufficient experience for it.” The questionnaire was sent to entrants in 1969 and 849 doctors completed it. The situation may have improved since then, but...
the conclusion cannot be lightly brushed aside. Another paper by an American non-medical observer was highly critical of standards in general practice, and it deserves much less attention because much of it was based on outdated reports. Indeed the faults found were those that precipitated the revolt by general practitioners in the mid-1960s, and the reforms since then cannot be expected to change family doctoring overnight. But progress is being made, and though the improvements are bringing some fresh problems confidence is returning.5

There has certainly been a remarkable turn round in family doctors' attitudes to vocational training,6 but both the General Medical Services Committee and the R.C.G.P. are realistic enough to recognize that, vital though universal vocational training is to the future quality of practice, there is a wide gap to be closed between the 200 training places now available each year and the annual entry into practice of about 1,000 doctors. Expansion of training facilities regardless of standards would be disastrous. Thus the appearance of a report this week from the R.C.G.P., The Future General Practitioner,7 is timely. Subtitled "Learning and Teaching" it is, as Dr. J. Forbes says in his review at p. 835, a stimulating and provocative book. The college has had several studies in progress on training which deal with teaching practices,1 selecting practitioners,8 and the characteristics of the practitioner as a doctor and teacher.9 They all complement this latest study, which despite its length deserves to be read by every general practitioner—in fact by every doctor and medical student—because full co-operation between general practitioners and the hospitals is necessary in the Health Service if the best use is to be made of available resources.

The exclusion of general practitioners from most hospitals and the all too common institutional isolation of the hospital doctor have been the cause of much mutual professional recrimination since 1948. The forthcoming reorganization should reduce this polarization, and the collaboration of the Royal College of Physicians with the R.C.G.P. in a study of the general practitioner in the hospital10 is especially welcome. Their report brings together many of the sensible proposals of recent years to improve the general practitioner's involvement in hospitals and adds one or two of its own, including the suggestion of increasing the number of local general practitioner hospitals and a recommendation that "The standard of care of patients in such hospitals should be monitored by a medical staff committee consisting of both general practitioners and hospital consultants." The participation of the family doctor in hospitals and its corollary—more frequent visits by consultants to general practice, while broadly welcomed by most doctors, raise practical problems as the protracted discussions on the hospital practitioner grade have shown.11 Certainly the quality of general practice should improve with greater contact with hospitals, and consultants in turn should benefit by better understanding of the difficulties faced by the family doctor in maintaining his standards when exposed to the daily pressures of a community's needs and wants.

Reports may analyse or comment or both. A few merely scrutinize. The rare one may give a clear lead, and the R.C.G.P. will, no doubt, hope that the The Future General Practitioner proves to be one of the. They will probably not be disappointed. Nevertheless it sets a breathtaking pace, and if the leaders lap the field too often the bulk of runners may get dispirited and slacken their pace or even give up the unequal struggle. So the enthusiastic front runners in general practice should spare an occasional glance over their shoulders to make sure that the rest of the field is still in sight.

Raynaud's Disease

The syndrome of intermittent ischaemia of the fingers and associated skin changes, now known as Raynaud's disease, was first described in 1862.1 The attacks are precipitated by cold, and the digits become pale or cyanosed. A warm environment or immersion of the hands in warm water will usually end the attack. Afterwards there is often a reactive hyperaemia. In severe cases gangrene of the fingers may develop, and skin changes are often observed. Women are affected ten times as often as men.

Raynaud's disease is usually divided into primary and secondary types. The condition is considered secondary if an associated or precipitating pathological process can be found.

The aetiology of the primary or idiopathic type is unknown. Raynaud attributed the condition to excessive vasocostrictor tone of central origin, and current views give some support to this concept. Certainly many sufferers appear to have an abnormal vascular reactivity to cold. Underweight asthenic women between the menarche and menopause are the usual sufferers. Mental stress and smoking may also play a part.

Secondary Raynaud's disease may be associated with a variety of underlying conditions.2 3 They include physical injury, as from cold; mechanical trauma, such as pneumatic drill disease; occlusive arterial disease, such as thromboangiitis obliterans and atherosclerosis; hypertension; cervical-rib and thoracic-inlet syndromes; many disorders of the central nervous system, including paralysis and disuse atrophy; amyloidosis; cold agglutinins; cryoglobulinemia; hypothyroidism; diabetes mellitus, heavy-metal poisoning; congenital syphilis; malnutrition; and severe infections, such as typhoid and typhus fevers, pneumonia, and collagen diseases. The collagen diseases are a relatively important cause. Any of them may be implicated, but scleroderma accounted for about one-third of the secondary cases in a recent series.2

Most published series are from specialized hospital clinics and so they are probably weighted with the more severe secondary forms of the disease, whereas milder primary cases are probably more common in the general population.4 The prognosis of the primary form is excellent. It tends to improve spontaneously, and in one large series