

## Newsdesk

### ACE inhibitors delay progression of diabetic retinopathy

The aims of the St Vincent Declaration to reduce blindness from diabetic retinopathy by half by the year 2000 are being addressed in a series of clinical trials and basic science studies sponsored by EURODIAB, a confederation of European diabetes associations. Interim results of the EUCLID trial (EURODIAB controlled trial of lisinopril in insulin dependent diabetes) indicate some interesting effects of the ACE inhibitor lisinopril which appears to delay the progression of retinopathy in normotensive diabetics who do not have renal impairment. Progression of retinopathy was reduced by 50% during the 2 year trial period as assessed by standard photographic grading methods. How ACE inhibitors exert their effect in retinopathy is as yet unclear but they do appear to have a 'renoprotective' effect mediated by reduction in capillary pressure. Angiotensin has also been proposed as an endothelial cell activating compound possibly involved in increased cell motility. Whatever the mechanism, the possible beneficial effects are promising for reducing the sight threatening effects of diabetic retinopathy.

### The BDA points to a funding crisis in diabetes research

Despite the problem of diabetes and its complications, research programmes in diabetes and particularly in diabetic retinopathy are not sufficiently well supported, according to the British Diabetic Association. Since 1990 there has been a 48% increase in research applications and it appears that the rise is set to continue. The BDA's annual research fund amounts to approximately £4.5 million to investigate a condition which health economists estimate amounts to a £1.4-1.8 billion cost to the NHS. While there are other sources of funding for diabetes research from more broad based funding bodies such as the MRC and the Wellcome Trust, there still remains a very large shortfall. A major problem in generating funds has been identified by the BDA as lack of public awareness and there would seem to be some grounds for justification of this analysis on the basis of a recently conducted MORI poll (May 1997). Of 2082 people interviewed in the survey, 75% did not realise that diabetes could lead to heart disease or stroke, 44% did not know it could cause kidney failure, 56% did not know there was a link with amputations, or that it could cause problems in pregnancy, and 38% were unaware of its association with blindness. There are 1.4 million people with diabetes in the UK (approximately 3% of the population) and this proportion is rising. Clearly there is a gap in medical information transfer relating to diabetes.

### Is European science making more of an impact?

Recent statistical analysis of citation rates of scientific articles indicates that Europe is closing the gap on the USA in its share of cited world science (*Science Watch*, May/June 1997). The UK in particular appears to be doing nicely in both the total number of

papers produced and in the citations per paper. This, of course, begs the question of what European scientists think of the ISI generated impact factors in the first place. Sir Robert May, chief scientific adviser to the government, has admitted that there is naturally a bias towards English language journals in citation analysis but other reasons why impact factors should not be used have been suggested by Per Seglen (*BMJ* 1997;314:498-502). These include a poor relation between the journal impact factor and the articles contained within the journal, a bias towards review articles rather than original papers, but most importantly the nature and size of the field: basic science articles in a general field are much more likely to receive citations than clinical articles in a narrow field even though the ultimate impact—for example, in changing the way people think or behave or manage patients, bears no relation to the journal impact factor. Indeed, it has been suggested that the way impact factors are collected actually causes bias. For the moment it appears that there is no acceptable alternative but the search for a more equitable mechanism of evaluating research output continues.

### The latest in varifocal lenses

According to the World Health Organisation, about one billion people worldwide require sight correction but do not receive it. The problem of presbyopia and other refractive errors in developed nations is readily dealt with through existing services but in developing countries regular optometric care is simply not available. A new invention, featured on the BBC programme *QED*, comprising fluid filled lenses which can be adapted to the wearer's specific visual needs promises to solve these refractive problems for much of the third world if sufficient supplies of the lenses can be made available at low cost. Known as 'Adspecs', a pre-mass production batch has been tested successfully in Ghana with sponsorship from the Department of International Development. According to their inventor (Dr Joshua Silver), a simple adjustment allows a range of lens powers from +6 to -6 dioptres and will correct vision for over 90% of the population. Manufacturing costs appear to be low and the promise for many in developing countries, who need good near vision to allow them to remain socially and economically active, is high.

### Clinical or financial initiative: which drives new developments in practice?

In all aspects of clinical care, regardless of the underlying culture or principles, finance (or the lack of it) dictates the style of medicine undertaken within any particular healthcare system. Recently in a discussion featuring ophthalmic plastic surgeons from both the UK and the USA, the technique of endonasal dacryocystorhinostomy (DCR) using a holmium YAG laser came under scrutiny. The purchase price of these machines for the UK market is around £70 000 which often requires (a) the purchasing health authority to support the cost and (b) a promise from the clinicians to use the equipment. This type of central purchasing is

therefore made on a 'needs' basis. Clinical appraisal of the equipment or technique is required well in advance of the purchase. Local pilot studies can be undertaken but may not immediately convince the remainder of the profession to adopt the machinery or refer patients. However, when the purchase price of the equipment can be offset against income from the technique, then clinical appraisal of its usefulness follows the purchase of the equipment. Providing the income is generated swiftly enough, clinical appraisal can conveniently be linked with if not profitable outcome then at least no net loss. Which of these two methods of introducing new surgical techniques produces the most accurate form of clinical appraisal is then open to debate. As many of the surgeons involved in this discussion were happy to point out, when a profitable state had been established, there was a distinct decline in the frequency of use of the holmium YAG laser. In some instances, the percentage of cases undertaken was the reverse of percentages of only 3 to 4 years ago when a direct comparison was taken between endonasal DCR using laser and external surgical styles. Some were, in fact, willing to admit that the use of the laser had fallen to a level where they could not exactly recall when they last switched on the machine. The dilemma, therefore, for surgeons in either discipline is whether the patients benefit from having the facility available because the equipment can generate profit, thereby allowing a rapid assessment of its usefulness and restricting potential for complications to a minimum. Or would restricted access to the equipment in the first place be a better option? It is a challenging concept whereby the balance of success in patient care is weighed between a level of damage limitation or masterful inactivity.

### Art and science

Where previously the great intellectual struggles raged between the humanities and the sciences, the emergence of the social sciences has added a new dimension to the debate. A book published in 1993, *The Golem: What Everyone Should Know about Science* (Cambridge University Press), attempted to distil the essence and the practice of science into a manageable set of information modules which took the mystery out of science by avoiding 'science speak'. However, this initiative has generated intense argument (for review see *Briefing, Nature*, 22 May 1997) mainly based on the assertion by professional scientists, particularly physicists, that social scientists are not competent to expound and judge on science and what people should know. There is probably a strong case for this point of view but what the debate has thrown up is evidence of the abrogation by scientists of their responsibility to make science more understandable to those outside the specific disciplines. As some sociologists such as Steve Fuller have claimed, 'progress' in science can sometimes be more subjective than objective and there is a growing awareness that science and technology, rather than solving the world's problems, may actually create them. However, the baby and the bath water still need to be kept separate.



*Br J Ophthalmol* 1997 81: 624  
doi: 10.1136/bjo.81.8.624

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