

Newsdesk

Diagnostic test for BSE

A small piece of tonsillar tissue may be all that is required from individuals suspected of having new variant Creutzfeld-Jakob disease (nvCJD), the human version of BSE (bovine spongiform encephalopathy). Researchers in Professor John Collinge's laboratory at the Imperial College School of Medicine have developed a test which detects rogue prions in tissues. nvCJD is caused by a different prion from classic CJD and it is thought that the nvCJD prion is present in the tonsillar tissue for some time before symptoms of the disease develop. This would then allow population studies to be performed to indicate the likely exposure to nvCJD prions and may have major public health implications. The work has been supported by the Wellcome Trust and the Medical Research Council and proposals for population studies are being discussed with the Department of Health.

Medical Research Council announces a clinical trials unit

Following on its success with established centres of trial expertise in cancer and HIV infection, the MRC has plans afoot to expand its area of interest into several other disorders including rheumatoid arthritis, respiratory disorders, surgery in its broadest sense, geriatrics, and complementary medicine. Part of this initiative derives from the additional government funding (£90 million over 3 years) and will have major implications for the health of the public; it is particularly being targeted at translating genetic discoveries into health benefits. Ophthalmology is at the "coal face" in many of these areas, both with advances in surgery which require to be clinically assessed and in genetics, particularly relating to possible gene therapy and novel drug discovery (see Newsdesk, *BJO* 1999;83:513) approaches to ocular disease. The director of the new clinical trials unit will be Janet Derbyshire who brings to it her extensive expertise from her previous role as director of the MRC HIV Clinical Trials Centre.

American Academy of Ophthalmology initiates public awareness drive

The American Academy of Ophthalmology has begun a series of programmes aimed at increasing public awareness of various blinding eye conditions. One of the first it has targeted is glaucoma, a major cause of blindness worldwide. The campaign has been named "Celebrate Sight" and is addressing,

particularly, the high incidence of glaucoma in the Afro-American population. In a second campaign, the academy has enlisted the support of James Worthy, a former National Basketball Association "all star" to promote the use of safety goggles in its campaign aimed at reducing injury to the eye during sport. Worthy played for the LA Lakers from 1982 until his retirement and suffered two serious eye injuries while playing. Statistics show that up to 90% of injuries can be prevented with the use of goggles. Most injuries in basketball are caused by fingers and elbows, while in other indoor sports such as squash and badminton the missile is the culprit.

Rhodopsins and the light response

A recent Novartis symposium in Kyoto (October 1998) was held to commemorate the contributions of George Wald to the field of phototransduction. A wide range of topics was discussed including visual ecology, evolution, protein structure, signal transduction, cell biology, and the discovery of new photopigments. The lack of availability of rhodopsin crystals has meant that the three dimensional structure of the molecule remains unclear, particularly in folding. However, much information has been obtained on how rhodopsin conformation alters with addition and subtraction of the chromophore. In addition, the evidence for spectral tuning has been shown by site directed mutagenesis potentially transforming a green opsin into a red opsin. The range of opsins available to fish indeed is increased because of the need to maximise photon capture. Lastly, a new opsin was reported, pinopsin, which appears to exist in the pineal gland and may be involved in the regulation of circadian rhythms.

NIH funds large epidemiology study for Latino population

The National Eye Institute of the United States has granted \$6 million (£3.75m) to a team of epidemiologists to undertake a major study of eye disease in the Latino population of Los Angeles. Since this ethnic group constitutes the second largest and the fastest growing group in the United States, there is clearly a need to estimate the likely cost of eye health care to the nation in the coming decades and little information is available for this group of individuals. Under the name LALES (Los Angeles Latino Eye Study), the researchers will investigate the incidence of refractive error as well as major disease including cataract, glaucoma, age related

macular degeneration, and diabetic retinopathy. Particular interest in life style factors peculiar to the Latino population which may affect disease incidence (positively or negatively) will be the focus of the project.

RPE65 function delineated

Mutations in many retinal proteins underlie the many forms of retinal degenerative disease and new proteins and their functions are progressively being identified. RPE65 is a protein expressed in the retinal pigment epithelium (RPE) and has been implicated in the physiology of vitamin A turnover and recycling between the photoreceptors and the RPE. Mutation of RPE65 can cause severe blindness from birth or early childhood. In a recent paper (*Nature Genetics* 1998;20:344-51), Redmond *et al* show that RPE65 deficient mice have photoreceptor outer segment discs which are disorganised and that rod function is abolished although cone function remains relatively intact. RPE65^{-/-} mice lack rhodopsin, but not opsin apoprotein. Defective conversion of all-trans-retinyl esters to 11-cis-retinal appears to underlie the RPE65^{-/-} phenotype, although cone pigment regeneration may be dependent on a separate pathway. Redmond has suggested that gene replacement therapy with normal RPE65 in patients with this defect may be possible. A puzzling aspect of the research is how cone function remains since presumably cones also need to convert all-trans-retinyl esters. The suggestion is that the cone pathway may have a separate set of enzymes to deal with this biochemical event.

Science in Scotland

The looming start date for devolution in Scotland has set many to think about how science and science policy should be managed in Scotland. The Royal Society of Edinburgh has teamed up with the Royal Society to establish a working group which will consider the implications of devolution for science in Scotland. Early decisions on policy issues will have been acted upon after the Scottish elections on 6 May when the shape of the new government emerged. One of the first decisions to be made is to oppose the formation of a separate research council for Scotland, since this was considered likely to lead to the fragmentation of the science base in the United Kingdom.

Global theme issue

The 1999 global theme issue will be "Impact of new technologies in medicine". Prospective authors please consider submission for this issue.



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