

Newsdesk

Wellcome showcase awards

Some concern has been voiced regarding recent trends in support of "directed" research in a manner that requires predetermined or predictable outcomes, thus stifling innovation and imagination. The Wellcome Trust established a new scheme in 1996 to commemorate the 60th anniversary of Sir Henry Wellcome's death. The scheme is specifically aimed at supporting research that is high risk or "blue skies", in the sense that proposals are centred around the nidus of a good idea for which there may be minimal supportive evidence but which may just come off. Several such proposals were sponsored in the first round of awards in 1996 and the results of the research were presented at a one day symposium held at the Wellcome Trust Building in September this year.

Some very interesting proposals were aired. For instance, the problem of large scale population vaccine delivery was addressed by investigating the possibility of using insect vectors. Since many of the organisms responsible for the major worldwide killer disease were carried by insect vectors, it seemed entirely feasible to try to genetically modify insects so that they delivered vaccine in their saliva instead of organisms. Advances in molecular techniques were the theme of several other presentations. For instance, the mechanism whereby mitochondrial DNA was transferred to the nucleus inside the cell was investigated with a view to potential gene transfer intracellularly while the development of carbohydrate modified liposomes for the improved and efficient delivery of genes to cells was described. Gene therapy in a cystic fibrosis mouse model delivered via the respiratory tract had some interesting but unexplained results, shown in expression of the delivered genes in distant (biliary duct) epithelia. Advances in proteomics of small proteins suggested that there may be several low molecular weight peptides in the cell which previously were regarded as background noise but, some of which at least, were shown to be essential components of the cell's metabolic processes. The final presentation in the morning showed how small physiological electrical fields can not only induce cell migration (galvanotaxis) but may also have effects on the orientation of cells during mitosis and thus may have fundamental implications for basic processes such as differentiation and tissue organisation.

The afternoon session was devoted to topics of a more immunological nature including the design of adjuvants using fusion proteins, the role of cytokines in odontogenesis, especially TGF β and the effects of hyperexpression of the developmental genes notch, delta, and serrate on immune responses. In addition, the mechanism of phagocytosis of apoptotic cells and their influence on such processes as autoimmunity were presented. The last paper of the day discussed the role of different integrins in myelination and the subsequent downstream intracellular signalling responses. Overall, the chairman Sir Michael Rutter remarked on the breadth and depth of the novel ideas the scheme had unearthed. Of the original 500 or so applications to the scheme, it was possible to select only around 10% for possible funding and delegates at this meeting were treated to the results of work done by

those lucky applicants who finally got their "off the wall" idea funded. Prospective outcome measures of the funded projects are planned over the next few years to determine just how well these ideas can be translated into something more practical.

Intercollegiate Board for Sports and Exercise Medicine

The Royal College of Ophthalmologists (UK) has become a full member of the Intercollegiate Academic Board for Sports and Exercise Medicine. The college therefore joins the majority of medical royal colleges. The aims of this intercollegiate body are to establish, maintain, and develop the highest possible standards in sports and exercise medicine for the benefit of the public and patients. This will be achieved by promoting education and training in sports and exercise medicine; encouraging academic research; and acting as the responsible body for postgraduate medical education training, professional development, and assessment in sports and exercise medicine in the UK. The examination structure will be based on the Diploma in Sports Medicine which was previously carried out by the Scottish royal colleges. The first oral and clinical examinations will be held in the Royal College of Surgeons of Ireland, Dublin, in November 1999.

Committee on Publication Ethics (COPE)

COPE is well known to readers of the *BJO*. The committee has been set up by a group of journal editors with the aim of providing a forum for discussion of many issues relating to good publication ethics such as authorship, peer review, and other more contentious issues such as scientific misconduct (see *Newsdesk* 1998;82:1230). The COPE guidelines have now been published and can be accessed on www.publicationethics.org.uk. It is likely that the editorial board of *BJO* will agree to follow these guidelines in its publication policy and the guidelines will be published in full in a future issue of the *BJO*. In the meantime interested readers are asked to consult the web page and to offer suggestions and opinions by writing to the editor.

Decline in eye donation in the UK continues

The most recent report from the UKTSSA shows that the number of eye donations for corneal transplantation continues to fall from a peak of more than 2200 in 1994 to 1701 in 1998. This follows the dramatic fall in donations in 1997 and remains a cause for concern. This was associated with an expected fall in the number of transplants performed although the proportion of donor corneas suitable for transplantation was higher than expected, thus attenuating this fall. Dr John Armitage of the UKTSSA states that the cause for the decline in transplantation remains unclear but suggests that awareness could be greatly enhanced through hospital management as well as through medical and nursing personnel. A clear policy on defining responsibilities in promoting the eye donor scheme has been shown to significantly

improve donor rates and could be encouraged in many units. There appeared to be a highly variable rate of donation from regions across the country with 45% of all donations coming from just six centres while 15% came from a single hospital. Dr Armitage indicates that adequate resources are necessary to support procurement and retrieval to the standards which minimise risk of disease transmission and to maximise the quality of tissue. This can only be achieved through forward planning and national coordination, according to Dr Armitage. Currently there are six eye banks in England and one in Ireland. There are no eye bank services in Scotland.

A gene regulating high density lipoprotein (HDL)

Lipids and cholesterol are implicated in several conditions affecting the eye either directly or indirectly. Most of these are related to vascular pathologies particularly atherosclerosis. Recently, the drug company, Xenon Bioresearch, in collaboration with a consortium of international research institutions, has identified a gene which it states is responsible for the transport of cholesterol out of the cell to bind with lipid free apolipoprotein and circulate as the well known product HDL. HDL is essential for the carriage of low density lipoprotein (LDL) to the liver from where it is excreted. Thus, HDL deficiency leads to an increase in LDL and mutations in the HDL transporter gene can cause such defects. The gene is known as the ATP binding cassette-1 (ABC-1) transporter and was identified in patients with familial HDL deficiency and with the much rarer HDL condition, Tangier disease, in which HDL is absent. Remarkably, the gene defect in both conditions is the same although only one allele is affected in Tangier disease while both alleles are affected in familial HDL deficiency. Abnormalities in the ABC transporter gene family have been reported in Stargardt's disease but intensive searches for similar abnormalities in age related macular degeneration have been unrewarding (see *Ophthalmology* 1999;106:1531-6).

The human genome and BioInformatics

As mentioned in previous *Newsdesk* items, the rate limiting step in the handling of the flood of information from the human genome project will be mechanisms for data management and analysis. A new product has been launched by the company BioInformatics, termed BioNavigator, which is described as an international web based "virtual" bioinformatics workspace. The company is a spin off from the University of Sydney's Australian National Genomics Information Service, which has been providing information of this nature to most of Australia's 3000 life scientists and researchers in academia and R&D. The company aims to become the life scientists' internet application provider for information storage, analysis, and retrieval of bioinformatics focusing on a whole range of activities including molecular biology and genomic information; molecular modelling; and structure prediction, population genetics, quantitative and classic genetics, and proteomics. Information can be obtained on www.eBioinformatics.com.