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Age-Related Macular Disease

therapy (PDT), radiotherapy and surgical excision. The TAP study (Treatment of AMD with PDT) involving 609 patients at 22 centres in the USA and Europe is a phase 3 clinical trial where patients with subfoveal CNV are randomized to visudyne or placebo. In this study a drug (a derivative of benzoporphyrin) was used to sensitize the neovascular tissue, following which the tissues were irradiated using a diode laser. The verteporfin in the Photodynamic Therapy Study (VIP study) uses a different photosensitizer but also includes many patients with subfoveal CNV who do not fit the criteria for the TAP study. The 12 month result of the TAP study has shown that patients treated with visudyne therapy were more likely to have stable vision or improved vision compared with those treated with placebo (<.0002). Analysis has revealed that 61.4% of patients treated with visudyne and 45.9% of patients treated with placebo had stable vision (CIBA Vision press release). Thus, while the treatment offers some hope for those already showing signs of advanced disease, the overall benefit is small. Another treatment currently under investigation is the possible role of radiotherapy in the prevention of severe visual loss in subfoveal CNV. A number of phase 3 randomized controlled clinical trials are under investigation at the experimental stage. These include using techniques of photoreceptor rescue in animal models of macular degeneration, retrolab gene transfer, retinal pigment epithelial transplantation and studies of a variety of anti-angiogenic agents that prevent or suppress neovascularisation. In the long-term, studies are needed to identify the molecular pathways which result in the death of the photoreceptor, RPE cell and the choriocapillaris. In the medium term, the benefits of identifying modifiable risk factors are unlikely to affect the prevalence of AMD over the next few decades. However, significant research is continuing for the prevention and treatment of wet AMD and may result in improved treatment which could influence and prevent severe visual loss. Finally, research is needed to identify the optimal management strategies in those who have already developed AMD and address the value of visual rehabilitation and visual aids.

Experimental Strategies

A variety of other therapeutic approaches are under investigation at the experimental stage. These include using techniques of photoreceptor rescue in animal models of macular degeneration, retrolab gene transfer, retinal pigment epithelial transplantation and studies of a variety of anti-angiogenic agents that prevent or suppress neovascularisation. In the long-term, studies are needed to identify the molecular pathways which result in the death of the photoreceptor, RPE cell and the choriocapillaris. In the medium term, the benefits of identifying modifiable risk factors are unlikely to affect the prevalence of AMD over the next few decades. However, significant research is continuing for the prevention and treatment of wet AMD and may result in improved treatment which could influence and prevent severe visual loss. Finally, research is needed to identify the optimal management strategies in those who have already developed AMD and address the value of visual rehabilitation and visual aids.

References


Report

The Epidemiology of Eye Disease

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Publisher: Chapman and Hall Medical

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Ordering information: Please make international cheques/orders payable to University College London. Only cheques drawn on UK or US banks can be accepted. Post & Packing: Please add £2.50/$5 (surface) or £5/$9 (airmail).

Review

This splendid and much needed book was written to answer the needs of postgraduate students on courses at the International Centre for Eye Health. It will be of great value to clinical and public health personnel involved in prevention of blindness and eye care programmes worldwide. The subjects covered are applicable in both developing and industrialised economies.

There are three sections to the book. The first section deals with epidemiological methodology, starting with basic principles and guidelines, through calculating sample sizes and planning an eye survey to data analysis and reporting. The middle and largest section covers the epidemiology of specific diseases with a chapter on each one. The conditions are cataract, trachoma, glaucoma, vitamin A deficiency, onchocerciasis, leprosy, HIV/AIDS, diabetes and age-related macular degeneration. Other subjects which also have their own chapters are childhood blindness, eye injuries and conditions of the outer eye excluding those mentioned above.

Section three is a practical guide on how to get going on prevention of blindness programmes. The processes are detailed for planning, management and evaluation of eye-care services and each stage is illustrated with practical examples. The book is rounded off with the roles of both the WHO programme for prevention of blindness and the international non-governmental organisations. Finally the scene is set for intervention in industrialised countries.

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