The ocular pulse

Stir.—The important editorial on the ocular pulse,1 highlights the observations of the retinal arterial pulsations noted by early ophthalmologists. It was Thiel2 who first attempted to quantify the recording of the tonic arterial pulsation which has now become known as the tonometric sign as early as 1879. Priestley Smith3 had clearly described the spontaneous vascular pulsations observed during tonometry. This was reinforced by the observations of Schiattaz and becomes an important observation for those undertaking tonometry up to the time of the application method.

The earliest precise recording of the ocular pulse was that of Thiel in 1928. Subsequently Maurice4 used a recording tonometer, to be followed by Castren and Lavikinen,5 who adapted a Muller electromenonrometer. Following the work of Suzuki a number of groups developed a system of recording the ocular pulse using a fluid filled suction cup system. The piezoelectric system of Byrke6 seems to be the least 'invasive' and most precise. The method7 and Perkins5 would have developed. In spite of the variety of approaches the amplitude and variation in pulse pressures correlate quite closely. Both in in time and form the pulse wave does not correspond with a typical arterial pulsation. It is possible to divide the dicrotic notch which is the characteristic of an arterial pulse, and when placed in time sequence in relation to the R-wave of the ECG, or the Doppler wave pulse recruited from an adjacent orbital vein, for example, the supra-orbital vessel, its time relationship is closer to the middle of diastole. The only report which demonstrates a dicrotic notch is that of Barnes and co-workers,8 who applied the pulse sensor externally, probably through the lids, and it is believed that this was recording ophthalmic artery pressure pulsations and not an ocular pulse.

While evidence to link the ocular pulse amplitude to either C or PO/C is lacking, there is a significant amount of evidence from all studies that it has a direct relationship with levels of ipsilateral carotid perfusion. The consequences of this is to question the role of a topical P-blocker which does not contain intrinsic sympathomimetic activity (ISA).


BOOK REVIEWS


This book is written by a professor of plastic surgery who specialised in eyelid surgery. It is of interest to the ophthalmologist, as it minutely examines the normal appearance of the eyelids and the anatomical reasons for variation in its appearance as well as the pathophysiological changes which occur with age. The ophthalmologist usually concentrates on the functional abnormalities of the eyelids and often does not seek to differentiate the nuances of minor changes in appearance which can be of great cosmetic significance.

There are chapters on anatomical considerations discussing the variations in bulges in the eyelids; scirrheous, which is subdivided into constitutional, developmental and iatrogenic causes; the treatment of excess skin, fat, muscle, and bone; the treatment of depression, complementary surgeries, and ectopions, and other complications. The author's approach to these concepts is recognising that the eyelids and of supplementing deficient tissue with fat grafting or mobilisation are especially interesting. He does not set out to give a standard technical description of how to do a particular operation but rather tries to make the reader aware of the human body's individual variations and how techniques need to be modified to take account of these variations and to avoid complications. All the chapters are copiously illustrated with excellent, clear diagrams and clinical photographs, and there is an extensive bibliography and additional reading section.

Although few ophthalmologists will wish to perform all the procedures described in this book, it is valuable for showing what possible exist in cosmetic surgery around the eyelids.

J R O COLLIN


This book is based on a successful course for ophthalmologists which the author has been running on an annual basis at the East Surrey Hospital. It is divided into 11 chapters and also contains a section for further reading and an index. The first three chapters deal with the basics of angiography and both normal and abnormal fluorescence. The remaining chapters describe the appearances in the more common retinal disorders.

The strength of the book lies in the very high quality of the photographs. Each disease described has a good representative colour illustration with first class clear fluorescent angiograms. Throughout the book there is hardly a plate which is not of excellent standard.

Unfortunately the book is somewhat let down by the quality of the text, not so much in terms of accuracy as of brevity. For instance, topics such as the side effects of angiography are touched on only briefly, and there is no description of their management. No mention is made of stereo photography, which is an integral part of angiogram assessment, particularly of macular diseases. Similarly the clinical descriptions of the various retinal diseases are short and not always accurate. The section on the development of neovascularisation in aging macular degeneration is muddling and the chapter on diabetic retinopathy perfunctory. Some examples — for example, macroneuryms, retinal folds, and some of the retinal pigment epitheliopathies — are not described at all.

One has the impression that the book has been written around an excellent set of colour photographs with correspondingly well-chosen angiograms. Overall this has generated an excellent primer for readers wanting an introduction to the subject of fluorescein angiography. Since the initial texts published when angiography was a relatively new field, there have been few textbooks on it, and therefore the present volume is to be welcomed. A large amount of angiographic information lies scattered in the ophthalmic literature. This book is useful as an early introduction to the subject in that it draws together the appearances of common retinal diseases. In contrast to the publisher’s notes on the cover it is unlikely that the book will be of much value to those retinal specialists looking for more detailed or diverse information.

R H B GREY


The authors have produced a very comprehensive manual on strabismus. They begin with a detailed account of the anatomy and physiology of the extraocular muscles. There is a thorough description of the tests for visual acuity and binocular function, with an explanation of the underlying physiological basis of Panum’s fusional space and stereovision. The standard orthoptic tests are covered in some detail. As a result less than half the text comprises photographs and description of abnormalities of ocular motility. However, in my view the balance is well struck, and the lucid and highly diagrammatic introduction to assessment of motility disorders is followed by well chosen illustrations of the more common conditions, with succinct text. This is an excellent book, which should prove useful as an introductory text for the fellowship candidate and as an approachable reference book.

R A HARRAD

* All titles reviewed here are available from the BMJ Bookshop, PO Box 295, London WC1H 9TE. Prices include postage in the UK and for members of the British Ophthalmic Overseas, but overseas customers should add £2 per item for postage and packing. Payment can be made by cheque in sterling drawn on a UK bank, or by credit card — Diners, American Express, Visa. Prices include postage and packing.

BOOK REVIEWS

The Volunteer Eye-Surgeons’ Association

On 11–12 October the Pre-AAO 1991 2nd International Meeting of the Volunteer Eye-Surgeons’ Association and any and all Third World ‘Free Sight-Restoration’ Groups will be held at Anaheim, California. For information, contact or write: Robert A Cohen, 9600 Oneaway Drive, Miami, FL 33133, USA (305) 856-1375 (nights).