practitioners at Clatterbridge and St. Catherine's Hospital, October-November, are obtainable from the group secretary, Clatterbridge Hospital, Bebington, Wirral, Cheshire L63 4JY. (Tel. 051-334 4000.)

Willesden General Hospital Medical Society.—Details and copies of the programme, October-May, are obtainable from Dr. E. M. Jepson, Willesden General Hospital, Harlesden Road, London NW10 3RY. (Tel. 01-459 1292.)

Gwent Postgraduate Medical Centre.—Details and copies of the programme 1971-2 are obtainable from the postgraduate secretary, Royal Gwent Hospital, Newport, Mon., to whom doctors in adjoining areas may apply to be placed on the mailing list.

UNIVERSITIES AND COLLEGES

ROYAL AUSTRALASIAN COLLEGE OF PHYSICIANS

Examinations held in Singapore in July and in Australia in September have resulted in the following being admitted to the Membership:

M. Chan Chew Koon, Chay Swee On, Huang Chen-Ya, Lim Chin Hock, M. Lit-Kee Lee, A. F. Ngan, Ong Ah Soon J., Pwee Hock Swee, Tan Yeang Tin, M. Yap Hock Leong, K. R. Kamath, Wu Hoon Loom, A. F. Amos, I. K. Bailey, A. S. Balint, G. P. Blake, R. J. Bullock, J. J. Burke, R. J. Butler, D. M. Coles, A. J. F. D'Apice, A. J. Dunstan, B. S. Gaynor, C. R. P. George, G. B. Goldstein, J. M. Gupta, D. J. D. Hammill, M. J. Hooper, L. S. Ibels, P. A. L. Lancaster, J. S. Mann, B. J. O'Neill, M. J. Swinburn, P. C. Thorpe, P. V. Twomey, G. S. Whyte, M. Wilson, I. H. Young, L. B. Arkles, D. R. E. Barracough, K. F. Bendall, J. C. Ding, Fan Shing Tung, P. Fox, A. Friedman, J. H. Iser, K. R. Mountain, J. M.

O'Connell, R. J. Pepperell, H. R. Powell, R. N. D. Roy, A. H. Sharp, A. L. Smith, D. M. Wilson, D. G. Banney, P. C. Bartley, D. B. Carselaine, A. E. Cowen, L. C. Harrison, P. G. Matthews, P. J. Ravenscroft, J. M. Sands, A. J. C. Buchanan, R. A. Geddes, R. I. Hewlett, A. C. Robertson, J. R. Wall, F. Kee Chin Bong, A. W. Musk, R. H. Redstan, G. R. J. Lewis.

APPOINTMENTS

UNITED SHEFFIELD HOSPITALS.—Dr. E. J. W. Gumpert (consultant neurophysiologist (with sessions in clinical neurology)).

UNITED BIRMINGHAM HOSPITALS.—Dr. Mary Ducrow (consultant anaesthetist).

SOCIETIES AND LECTURES

*For attending lectures marked * a fee is charged or a ticket is required. Applications should be made first to the institution concerned.*

Monday, 4 October

INSTITUTE OF LARYNGOLOGY AND OTOTOLOGY.—5.30 p.m., Clinicopathological conference.

Tuesday, 5 October

INSTITUTE OF OBSTETRICS AND GYNAECOLOGY.—At Queen Charlotte's Hospital, 11.15 a.m., discussion, Mr. J. A. Riedel, Mr. R. T. Sears: Abruptio-placenta. (Admission by ticket only, obtainable from secretary, Institute of Obstetrics and Gynaecology, Chelsea Hospital for Women, London S.W.3.)*

ROYAL ARMY MEDICAL COLLEGE.—5 p.m., Professor J. G. Scadding: Smoking.

ST. BARTHOLOMEW'S HOSPITAL.—5 p.m., Dr. K. Backhouse: Anatomy of the Hand for Rheumatologists.

Wednesday, 6 October

INSTITUTE OF DISEASES OF THE CHEST.—5 p.m., Mr. M. Paneth: Pulmonary Embolism—Diagnosis and Management.

INSTITUTE OF PSYCHIATRY.—5.30 p.m., Mr. M. Falconer: Place of Surgery in Temporal Lobe Epilepsy of Childhood and Adolescence.

INSTITUTE OF UROLOGY.—5 p.m., Dr. A. R. Harrison: Acute Renal Failure of Surgical Origin.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.—7 p.m., Mr. C. N. Hudson, Mr. G. Madill: Pregnancy Testing.

ROYAL FREE HOSPITAL.—5.15 p.m., Dr. R. Hall: Clinical Applications of TSH and TRH.

WEST LONDON HOSPITAL.—5.30 p.m., Alex Simpson Smith memorial lecture by Mr. J. S. H. Wade: Clinical Research in Thyroid Surgery.

Thursday, 7 October

INSTITUTE OF CHILD HEALTH.—5.30 p.m., Alex Simpson Smith lecture by Professor C. E. Koop (Philadelphia): Neuroblastoma.

ST. MARY'S HOSPITAL MEDICAL SCHOOL.—5.15 p.m., Dr. M. C. Anderson: Aspects of Pathology of Ovarian Tumours.

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Fifty Years Ago

The Manner in which Quinidine Sulphate Acts in Auricular Fibrillation

THOMAS LEWIS, A. N. DRURY, C. C. ILIESCU, A. M. WEDD

From the British Medical Journal, 1 October 1921

The action of quinidine sulphate upon the fibrillating auricle, an action but recently discovered, is perhaps one of the most remarkable and dramatic which is now known to therapeutics. The essential feature of the reaction is an invariable and conspicuous reduction of the rate at which the auricle beats; in patients in whom treatment is successful this progressive slowing of the auricular action is abruptly disturbed, the disordered action ceases, and the normal action is at once resumed.

To understand how these changes are brought about is of obvious importance; but this problem cannot be solved unless we are able first to understand the mechanism of fibrillation itself. Several views of the reaction of the fibrillating auricle to quinidine have been published, but as these all assume that fibrillation of the auricle is caused by rapid impulses, arising at one or more irritable centres in the muscle of the auricle, and to which the auricle responds in a confused manner, the explanations founded upon such an assumption remain inadequate. These theories of auricular fibrillation, until recently widely held, have undergone extensive revision, and are now scarcely acceptable.

Recently a series of papers has been published from this laboratory, in which it has been shown that in auricular fibrillation a circus movement exists in the auricle; that a single wave is propagated and revolves perpetually upon a re-entrant path. The circus movement is repeated in the average 450 times a minute, and it is this circulating wave which, in its revolution, alone controls the beating of the auricle. The auricle is no longer controlled by discrete impulses arising at a single point on the auricular muscle, each impulse originating a corresponding discrete wave of concentration in the auricle which dies away and is renewed, but by a never-ending wave which passes over and over again through the same muscular channels. . . . In recent experiments, a full report of which will be published elsewhere, we have found that the most striking action of quinidine upon the auricle is a lengthening of the refractory period; the lengthening which occurs, when doses comparable to those used clinically are employed, amounts to 50 per cent or more. The reason why quinidine brings fibrillation of the auricle to an end seems to us therefore not to be in doubt. It prolongs the refractory period of the auricle

and delays the recovery of the tissue, thus rendering the gap between the crest and the wake of the circulating wave shorter and eventually abolishing it altogether; when the last event happens the abnormal action of the auricle ceases and the normal impulses are thus enabled once again to resume control.

Though we do not doubt that this is the explanation of the successful treatment, the problem is not quite so simple as it may at first seem; for quinidine has not only this action upon the refractory period, it has further actions. The most important of them from our present standpoint is an effect on the rate of conduction; it slows conduction in the auricle. Now slowing of conduction favours re-entry; it prolongs the gap. Thus quinidine exerts two effects which, so far as circus movement is concerned, are opposed to each other; on the one hand, by prolonging the refractory period it tends to shorten the gap; on the other hand, by slowing conduction it tends to lengthen the gap. It is only in those cases where the first effect predominates over the second that the gap will close and the circus movement will terminate.