

CURRENT ACHIEVEMENTS IN GERIATRICS



Current Achievements in Geriatrics

*Papers read at a Conference on
Medical and Surgical Aspects of Ageing
held in Glasgow, November 20th-22nd, 1963
under the auspices of
The Glasgow Postgraduate Medical Board*

Edited by
W. FERGUSON ANDERSON
and
BERNARD ISAACS



CASELL · LONDON

CASELL & COMPANY LTD
35 Red Lion Square, London wc1
Melbourne, Sydney, Toronto
Johannesburg, Cape Town, Auckland

© Cassell & Co. Ltd. 1964
First published 1964

Made and Printed in Great Britain by
The Garden City Press Limited
Letchworth, Hertfordshire

Current Achievements in Geriatrics

Introduction

This book consists of the papers read at a conference on Medical and Surgical Aspects of Ageing which was organised by the Glasgow Postgraduate Medical Board and which took place at the Royal College of Physicians and Surgeons of Glasgow on November 20th-22nd, 1963. The conference was one of a series which has been held by the Board in the past few years with the purpose of bringing together leading authorities in various areas of rapidly advancing medical knowledge. The decision to devote a conference to the disorders of old age is an indication of the importance currently attached to geriatric medicine, surgery and psychiatry. The programme was comprehensive and focused attention on the considerable achievements which clinical research has recently made in a once-neglected field. In offering in book form the papers read at this conference the editors hope that those who attended the meetings will be glad to have a permanent record of the proceedings, while those who were unable to do so may turn to this volume for guidance on current thought and practice on many of the major clinical problems of geriatrics. The conference was divided into five sessions, to which the five sections of this book correspond.

In introducing the session on Epidemiology and Gerontology, Professor Stanley Alstead, Regius Professor of Materia Medica and Therapeutics in the University of Glasgow, discussed the concept of epidemiology and how this had extended beyond the field of infectious diseases; it was now being increasingly used in the scientific study of the incidence of all kinds of disabilities. Faced with a remarkable shift in the age-distribution of diseases in population, we were obliged to use epidemiological methods in order to define our major problems—and especially when these had serious implications for the community.

Introduction

The second session, on Cerebrovascular Disease, was introduced by Professor (now Sir) Edward Wayne, Regius Professor of Medicine in the University of Glasgow. Professor Wayne recalled that cerebrovascular disease was the third most frequent cause of death in Great Britain, and that the number of fatal strokes in England and Wales had risen to 76,000 per annum. The amount of invalidism to which cerebral arteriosclerosis gave rise was immense; about one-quarter of a million patients with hemiplegia were in hospitals in Great Britain alone, and probably an equal number were nursed at home. This number did not include patients with little strokes, or with parkinsonism, or pseudo-bulbar palsy. Professor Wayne felt that the basic problem was the aetiology of atherosclerosis, which was almost certainly a pathological process with a multi-factorial aetiology; dietary factors, including excess of fat and possibly sugar, hereditary predisposition and emotional stress all seemed to play a part. Hypertension accentuated the changes in the vessels. Attention was drawn by Professor Wayne to the state of internal carotid artery insufficiency and disease of the vertebrobasilar arterial systems, as it might be possible to prevent an extension of a clot by the use of anticoagulants or even to recanalise the vessels by surgical procedures. Physicians could best help their patients by taking the advice of a geriatrician in the early stages of the disease, and he deplored the fact that facilities for early transfer to specialised units were often difficult because of shortage of accommodation. Professor Wayne concluded by saying that the solution of the riddle of malignant disease might come before that of atherosclerosis and that any facilities we provided today for housing and rehabilitating the patient who was the victim of cerebral arteriosclerosis would for long be used to the full. It was highly desirable that the type of provision already available in our most progressive centres should be made immediately accessible to as wide a range as possible of those who were incapacitated by cerebrovascular accidents.

Lord Amulree, Physician to University College Hospital, London, and President of the British Geriatrics Society, opened the session on Urology. Lord Amulree recalled that fifteen years ago it was common to find in the male wards of any public assistance institution a large number of men suffering from enlargement of the prostate gland for whom no other treatment had been given than the performance of a permanent suprapubic cystostomy. Now this had changed. These old men had had their prostate glands removed and had been discharged from hospitals, while their successors had undergone more rational and equally successful treatment. In Lord

Amulree's experience routine tests carried out in elderly patients revealed, especially among women, a large number of raised sedimentation rates for which no obvious cause was to be found. Coincident with this it was noted that these women suffered from what was apparently a long-standing urinary infection which was symptomless and was, in most of the patients, a cystitis rather than a pyelonephritis. These old ladies seemed none the worse of their chronically infected urine and had reached a happy stage of symbiosis with their organisms. Pyelonephritis among elderly women did not invariably seem to possess the profound significance that one would expect. Thus Lord Amulree believed that despite the impressive advances described in the papers in this section there were still some unsolved urological problems in the elderly.

In the chair at the session on Psychiatry was Professor T. Ferguson Rodger, Professor of Psychological Medicine in the University of Glasgow. Professor Rodger welcomed the inclusion of a session on psychiatry in the conference as an indication of the increasing awareness by physicians and surgeons of the importance of psychological illness in the elderly. Because of his deprived social state and his limited powers of adaptation, the older patient presented the psychiatrist with some of his most difficult problems. None the less a great deal could be done for the patient by accurate diagnosis and the full utilization of therapeutic and community resources. Professor Rodger thought that the social services of the community had a gigantic task before them, in accepting the implications of the vast amount of mental ill-health suffered by the elderly members of the population.

Mr. A. B. Kerr, Visiting Surgeon to the Western Infirmary, Glasgow, and Visitor of the Royal College of Physicians and Surgeons of Glasgow, introduced the final session of the conference which was concerned with Clinical Topics. He detected in the papers at this session the common theme—trauma. The injuries to which old people were exposed were many; they consisted not only of physical trauma, but also malnutrition, pressure, cold, and coal-gas poisoning. To deal with the effects of such injuries required a special understanding of the strength and weaknesses of the aged patient, and Mr. Kerr stressed that treatment was usually most effective where there was active co-operation between physician and surgeon.

The editors of this book are deeply grateful to the chairmen of the sessions, and to the contributors for their participation in the conference and for the promptness with which they submitted their

Introduction

manuscripts for publication. Special thanks are due to the Glasgow Postgraduate Medical Board, and especially to its Chairman, Professor C. M. Fleming, for the organisation of the conference. The Royal College of Physicians and Surgeons of Glasgow generously acted as hosts to the conference and shouldered much of the administrative work; the support of the President of the College, Professor Sir Charles Illingworth, and of the Honorary Secretary, Dr. Gavin B. Shaw, is most gratefully acknowledged. The editors also wish to thank Miss J. M. Muir, Miss A. Macpherson, Miss I. Frame and Miss K. Reddie for assistance with the manuscripts, and Mrs. Doreen Henderson of Messrs. Cassell & Co. for her help in the preparation of this book for publication.

W. FERGUSON ANDERSON
BERNARD ISAACS

Contents

INTRODUCTION

ix

SESSION ONE—EPIDEMIOLOGY AND GERONTOLOGY

In the Chair: Prof. Stanley Alstead, C.B.E.

- | | |
|--|----|
| 1. Normal and Abnormal Ageing | 3 |
| <i>W. Ferguson Anderson, O.B.E.</i> | |
| 2. The Causes of Death in Old Age | 14 |
| <i>Trevor H. Howell</i> | |
| 3. The Influence of Age on the Incidence of Cancer | 23 |
| <i>A. K. Bowman, C.B.E.</i> | |
| 4. Morbidity in Elderly Hospital Patients | 29 |
| <i>Bernard Isaacs</i> | |
| 5. The Dietary Intake of the Elderly | 41 |
| <i>J. V. G. A. Durnin</i> | |

SESSION TWO—CEREBROVASCULAR DISEASE

In the Chair: Prof. Sir Edward Wayne

- | | |
|---|----|
| 6. The Epidemiology of Strokes | 49 |
| <i>B. Bronte-Stewart</i> | |
| 7. The Pathology of Cerebral Infarction | 56 |
| <i>J. Hume Adams</i> | |

8. Syndromes of Cerebrovascular Disease	64
<i>A. Paterson</i>	
9. Spatial and Perceptual Disorders in Strokes	71
<i>G. F. Adams</i>	
10. The Scope of Surgery in Cerebrovascular Disease	76
<i>D. W. Short</i>	
11. The Prognosis of Hemiplegia	84
<i>Hugo Droller</i>	

SESSION THREE—UROLOGY IN THE ELDERLY

In the Chair: The Rt. Hon. Lord Amulree

12. The Control of the Urinary Bladder and Urethra	97
<i>Prof. R. C. Garry</i>	
13. Cystometry in the Investigation of Urinary Incontinence	105
<i>John Thompson</i>	
14. The Aetiology of Urinary Incontinence in the Elderly	115
<i>John C. Brocklehurst</i>	
15. Diagnostic and Therapeutic Problems in Pyelonephritis	122
<i>Arthur C. Kennedy</i>	
16. The Significance of Haematuria in the Elderly	130
<i>T. L. Chapman</i>	
17. The Role of Infection in Prostatic Surgery	135
<i>A. Marshall</i>	
18. Carcinoma of the Prostate in the Elderly	145
<i>William S. Mack</i>	

SESSION FOUR—PSYCHIATRY

In the Chair: Prof. T. Ferguson Rodger

19. Prophylaxis, and Early Diagnosis and Treatment of Mental Illness in Late Life	155
<i>Prof. Martin Roth</i>	

20. Attitudes of Old People to Death	171
<i>Arthur Shenkin</i>	
21. Diagnosis and Prognosis of Depression	178
<i>Felix Post</i>	
22. The Significance of Paranoia	184
<i>R. Davidson</i>	
23. The Diagnosis and Prognosis of Dementia	190
<i>R. A. Robinson</i>	

SESSION FIVE—CLINICAL TOPICS

In the Chair: A. B. Kerr, O.B.E., T.D.

24. Negative Nitrogen Balance	207
<i>E. Woodford-Williams</i>	
25. The Aetiology, Pathology and Treatment of Pressure Sores	218
<i>A. N. Exton-Smith</i>	
26. Hypothermia in the Elderly	233
<i>R. G. Simpson</i>	
27. Accidents in the Home	239
<i>M. P. Anand</i>	
28. The Significance of Span as a Clinical Measurement	246
<i>O. Taylor Brown</i>	
29. Salvage Procedures after Failed Treatment of Fractured Neck of the Femur	252
<i>Prof. Roland Barnes</i>	
30. Rehabilitation of the Elderly Lower-limb Amputee	262
<i>G. A. Whitefield</i>	

SESSION ONE

EPIDEMIOLOGY AND GERONTOLOGY

In the Chair: STANLEY ALSTEAD, C.B.E.,
M.D., F.R.C.P.(Lond.), F.R.C.P.(Glasg.), F.R.C.P.(Edin.),
F.R.S.(Edin.)

*Regius Professor of Materia Medica,
University of Glasgow*

1. Normal and Abnormal Ageing

W. FERGUSON ANDERSON, O.B.E., M.D.,
F.R.C.P.(Lond.), F.R.C.P.(Glasg.), F.R.C.P.(Edin.)

*Regional Adviser in Diseases of Old Age and Chronic Sickness,
Western Regional Hospital Board, Scotland*

The changes associated with ageing are now being examined in a more scientific way than at any previous time, and as can be judged from the published literature on this subject much interest has been aroused. It might be helpful, therefore, for us to start with a brief review of the recent literature.

Shock (1963) summarising the intrinsic factors in ageing felt that ageing was associated with a progressive loss of reserve capacities in many organ systems. He considered that loss of cells and functioning units was an important factor in the diminution of performance capacity in the aged animal, and that therefore cell death must be studied. He observed that while cell death may result from loss of adequate blood supply, changes such as impaired function of specific enzyme systems also occurred at a cellular level. While he regarded genetic factors as important, in his view other intrinsic processes were also involved. Comfort (1963) discussed the possibility of auto-immunity as a cause of ageing and ventured the opinion that while at present it seems wrong, in the future there may be explanations to fit the mutational-immunological theory of ageing. Maynard Smith (1962) concluded that radiation can reduce the life span by causing somatic mutations which are in the main recessive in their effects. However, he suggested that 'normal' ageing was not due to somatic mutation but was accounted for by changes at a cellular level which have similar physiological effects on the individual to those caused by somatic mutations. Szilard (1959a, b), who considered ageing in diploid organisms, stated that cell death might be due to the disappearance or inactivation of cells produced by mutational events. Kohn (1963) has given us some figures, e.g. the probability of dying doubles every eight years. He detailed the changes associated with ageing but held the view that one of the basic causes of ageing was atherosclerosis in arteries. His thesis was that the lesion of atherosclerosis represented a chronic inflammatory reaction caused by an

inadequate blood supply to the vascular media and that this inadequacy was potentiated by basic ageing processes. He stated that if generalised progressive changes occur in the small vessels most of the disabilities of age could be explained. The other important factor according to Kohn was the generalised progressive changes in connective tissue that occur with age, and he thought these changes might possibly be brought about by a combination of some type of denaturation and intermolecular cross-linkage.

No matter which theory of ageing is correct, it would still be reasonable to infer that there is a pattern of ageing that is freed from the attacks of disease. Conforming to this pattern are those who, as they grow older, are classed as healthy after examination by current clinical methods. The World Health Organisation defines health as 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity'. In 'Human Aging' Birren *et al.* (1963) described how an attempt was made to obtain a picture of ageing by the study of a group of men as healthy as could be obtained.

A group of 27 men, aged 65 years or older, who had no observed evidence of disease, was selected. These men had no past illness of serious import, no clinical or radiological evidence of enlargement of heart, and no pathological cardiac murmurs; in short they were classed as healthy (a description I ask the reader to bear in mind as I shall return to it again). The qualifications for inclusion in this group were a systolic blood-pressure below 170 and diastolic below 95 mm. Hg, and no retinal arteriosclerotic change beyond Grade I. In this optimally healthy group cerebral blood-flow and O_2 consumption did not differ significantly from the values observed in a group of normal subjects approximately five decades younger (mean age 21 years).

In a second group of 20 people, also aged 65 years or older, who had defects that disqualified them from the optimally healthy group and who differed from Group I in that they showed clear evidence of mild asymptomatic disease, chiefly vascular in type, there was a statistically significant drop (approximately 10–16%) in cerebral blood-flow. Cerebral oxygen consumption tended to be reduced but not to any significant degree. All the changes in cerebral circulation and oxygen utilisation in Group II could be accounted for by the results obtained in the arteriosclerosis subjects within the group. Half of the 20 subjects in Group II were placed there because of demonstrable arteriosclerosis, the diagnosis being based on (1) historical, physical or ECG evidence of arterial heart disease, i.e. left bundle-branch block or old myocardial infarction; (2) chest X-ray revealing calcification of thoracic aorta often accompanied by widening and/or dilation; and (3) historical, or physical evidence of partial obliteration of peripheral circulation. Hypertensive subjects without atherosclerosis were normal with regard to cerebral circulation and O_2 consumption.

This interesting study revealed many changes other than those mentioned and reference to the original publication is essential.

At the Consultative Health Centre at Rutherglen, which had been established in an endeavour to maintain older people in as sound a state of health as is possible (Anderson and Cowan, 1955), Dr. Cowan and I described three important aspects of the life of each person we saw there over the age of 55: (1) social environment; (2) mental health; and (3) physical health. Physical health is the present topic. Now it has already been demonstrated elsewhere how dangerous is obesity, especially for males. Out of 650 men examined at

TABLE I. Relationship between Age, Sex, and Weight in 1,000 Subjects who attended the Rutherglen Consultative Health Centre

Percentage overweight*	Number of subjects					
	Aged 55-69		Aged 70 and over		All ages	
	Male	Female	Male	Female	Male	Female
Less than 25	204	156	281	186	485	342
25-49	12	70	14	41	26	111
50 and over	1	25	1	9	2	34
Total	217	251	296	236	513	487

* The percentage overweight was calculated by Anderson's nomogram (Greene, 1951).

the Centre not one who was 25% or more overweight was considered to be healthy, and the findings shown in Table I illustrate how rare it is for fat men to live into advanced old age. It has also been stated elsewhere that obesity *per se* has a dramatic effect on blood-pressure in women and it can be seen from Fig. 1 that this occurs at the 24%-overweight level (Anderson and Cowan, 1959). As a statistical exercise we have been able to exclude, we believe, varicose veins as a cause of hypertension—an association that has been claimed; as shown in Fig. 2 the causative factor seems to be adiposity and not varicose veins (Anderson and Cowan, 1959).

The total number of people seen by us at the Centre at the time of writing was 1,232 of whom 650 were men and 582 were women. Their ages ranged from 60 to 89 years. To obtain a highly select group of healthy subjects a simple screening test was undertaken. We defined health as meaning no clinical evidence of disease and no

past history of the illnesses as previously described (Anderson and Cowan, 1959). Of the 650 men, 400 were considered healthy and 250 diseased; and of the 582 women, 404 were considered healthy and

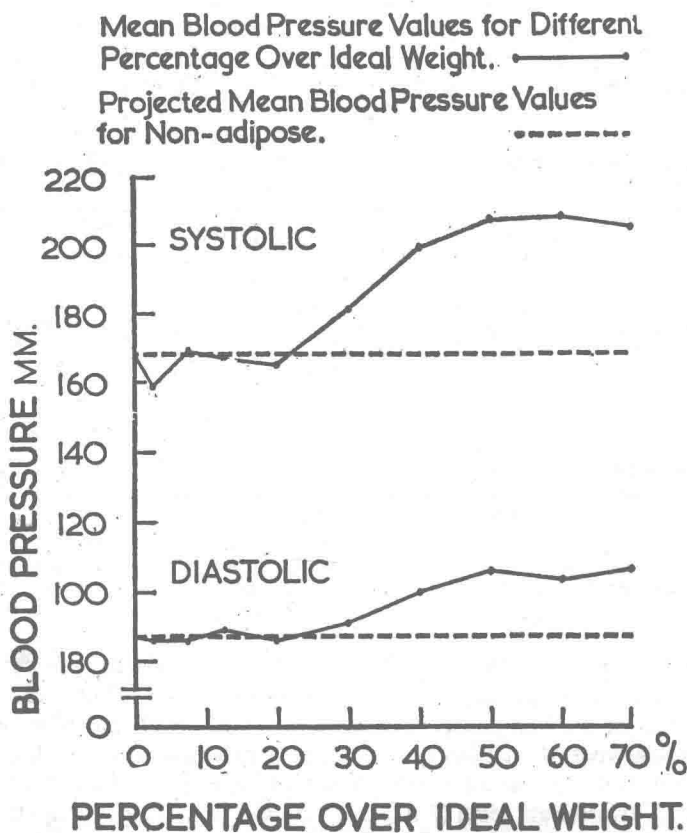


FIG. 1. The systolic and diastolic blood-pressure means of 304 women aged 60-79 years in relation to the degree of adiposity.

178 diseased. None of the healthy men was adipose, and of the 404 healthy women, 293 were non-adipose and 111 were adipose. The term adipose was used to apply to all individuals who were 25% or more over ideal weight as estimated by Anderson's nomogram (Greene, 1951). This level was taken on the basis of previous work