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GERIATRICS ONE HUNDRED YEARS AGO

Just over a century ago, Daniel Maclachlan, Physician to the Royal Hospital, Chelsea, published his book *The Diseases and Infirmities of Advanced Life*. This was based on his extensive experience among the Chelsea pensioners as well as patients seen in private practice. He begins by stating 'the diseases of advanced and declining life have been comparatively neglected... they have nowhere received the attention they deserve'. The volume of 718 pages is full both of original observations and also copious quotations from the literature of the period. It is superior in many ways to the two books written by his successors at Chelsea. The clinical descriptions are more vivid than those of Lipscombe (1932), while the references are more extensive than those of my own little work composed under wartime conditions (1940–44).

Maclachlan had been born at Glasgow in 1807, being educated at the local grammar school. He qualified with the Diploma of the Royal College of Surgeons of Edinburgh during 1827. Joining the army shortly afterwards, he volunteered for service as Hospital Assistant on the West Coast of Africa. A year later he was transferred to be Assistant Surgeon to the 79th Highland Regiment. In 1840, he was appointed Physician and Surgeon of the Royal Hospital, Chelsea, where he served for twenty-three years, until repeated attacks of respiratory infection caused him to retire at the age of fifty-six. He was known professionally as able, well-informed, but not brilliant. The officers at the Royal Hospital noted that 'he persisted in the performance of his duties in spite of great suffering and consequent exhaustion'. Apart from his celebrated book, he wrote relatively little—the chief contribution being the report of a case with

'Scrofulous abscess of the mediastinum' to the Royal Medico-Chirurgical Society in 1850.

The first section of Maclachlan's book deals with the anatomy, physiology, psychology and pathology of ageing. It is surprisingly modern in many respects, mentioning raised blood cholesterol, diminished vital capacity, low specific gravity of urine, and the tendency to osteoporosis. The pathological data are based on a number of autopsies as well as quotations from Austrian, French and British literature. The author is familiar with atheroma and calcification in the great vessels, degenerative changes in the myocardium and the appearances of cerebral vascular lesions. With regard to multiple pathology he writes:

Diseases accumulate with the progress of years. The innumerable maladies that openly or secretly besiege the frame leave sequelae, are grafted upon each other, and present themselves associated and complicated in such wise as to diversify the character of the symptoms and modify the prognosis and treatment...it is in old people especially that the anatomist encounters the most singular modifications of structure, and the pathologist the most perfect and varied specimens of disease, benign or malignant, in the brain, heart, lungs and other viscera.

Maclachlan quotes the causes of death in subjects over the age of forty-five from the Registrar-General of that period. Bronchitis is the most frequent fatal lesion, closely followed by phthisis. Next come 'apoplexy', pneumonia, 'cancer' and 'diarrhoea'. After these are empyema, 'hemiplegia', pericarditis, cholera, 'softening of the brain' and 'heart disease'. He mentions that he always had between sixty and eighty pensioners under medical treatment at any one time. This was approximately the same number as that of patients in the infirmary wards until quite recently. During the long nights of the London blitz, the present writer used to study past medical records of the Royal Hospital until they were eventually destroyed by enemy action. It was interesting to note that the commonest cause of illness between 1919 and 1929 had been bronchitis. Next came a heterogeneous group of diseases entitled 'old age and debility'. After this was 'myocardial degeneration'. Epidemics of influenza had been prominent in seven different years to reach fourth place. During the decade under consideration, the number of admissions to the infirmary for sick pensioners had varied from 216 to 386 per annum, and the deaths from 56 to 102. This gave a mortality varying from 17.0-37.9 per cent of admissions, which later diminished appreciably after the introduction of sulphonamides and antibiotics. Considering the limited therapeutic facilities of the Victorian era, Maclachlan's annual death rate around 13 per cent of 550 pensioners must be considered very creditable indeed.

CENTRAL NERVOUS SYSTEM

The second section of this volume is concerned with diseases of the nervous system. Modern neurology had not developed at the time the book was written. It antedates the work of Charcot and his colleagues by several years. Hence the terminology is somewhat odd by modern standards, and the classification of disease is imperfect. The chapter on apoplexy gives excellent clinical descriptions of cerebral haemorrhage and clear accounts of post-mortem findings in such cases. It is, however, at a loss when discussing aetiology. 'Gout, chronic rheumatism, dyspepsia and cachexia, frequent accompaniments of advanced age, have all been adduced as causes of the disease.'

Other cerebro-vascular lesions are considered under various headings, such as 'softening of the brain', 'hemiplegia' and 'paralysis'. There is a good description of transient ischaemic attacks entitled 'non-convulsive epilepsy'. The complications of cerebral thrombosis are well known to this old physician. He is familiar with contractures and incontinence; and even gives an account of those cases in which there is first retention of urine after a stroke, and later, the onset of incontinence. Towards the end of this section there is a good description of a Chelsea pensioner with signs suggestive of Huntington's Chorea—some years before Huntington himself depicted the condition in 1872.

RESPIRATORY DISEASES

This section contains many quotations from the French literature of the period. It is noted, however, that physical signs detected can be misleading in the elderly. 'In examining aged subjects, it is essential to guard against mistaking old for recent diseases of the lungs... these modify the sounds of percussion and auscultation in health and vary them in disease'. Maclachlan had seen many cases of recurrent respiratory infection. 'From the month of November many date the commencement of a catarrh which only terminates with life.' He is aware that 'there is little or no febrile excitement, though the bronchi of one or both lungs may be the seat of an extensive and spreading inflammation. Cough and difficulty of breathing are among the earliest symptoms'. There follows a meticulous and precise account of the progress of bronchitis among aged subjects and its complications, including cor pulmonale, which closely resembles the findings of the present writer during his researches published in 1951.

There is an interesting chapter on pulmonary tuberculosis, which was a very common fatal disease in those days. Maclachlan quotes 145 pensioners aged between fifty-six and seventy in whom it was the undoubted cause of death. He considers 'Old Age', 'Debility' and 'Atrophy' cover immense numbers of deaths in persons above sixty in the returns of the Registrar-General. Many of these must really be undiagnosed phthisis. 'At Chelsea Hospital, tubercles, tubercular concretions, chronic diffused grey consolidation, excavations or traces of recent and ancient cicatrised cavities occur in the lungs of about half the men examined [post mortem].'

CARDIOVASCULAR DISEASE

This section starts with a comprehensive anatomical and pathological description of changes in the heart and blood vessels of aged subjects. There are several quotations from contemporary French sources. Such matters as hypertrophy of the left ventricle, calcified valves, bradycardia and the occurrence of heart block are all mentioned in some detail. No less than ten pages are devoted to pericarditis, with and without effusion. Many of the comments on this topic are rather obscure. Some of the autopsy material could refer to coronary occlusion. Yet the chapter on angina pectoris is full of excellent dinical and pathological observations, obviously drawn from personal experience. There is quite a long discussion, in the fashion of the times, upon fatty changes in the myocardium and the symptomatology of 'fatty heart'. One of the references mentions the occurrence of cardiac rupture, but neglects to state whether

it involves the left or the right ventricle. This section also contains a description suggestive of bacterial endocarditis. 'Generally the inflammation assumes a sub-acute or chronic form, and ends in fibrinous vegetations, or thickening or puckering of the valves engaged. On other occasions the endocardium ulcerates and the ulceration sometimes extends into the substance of the heart, giving rise to true or partial aneurysm, or the valves are perforated and their efficiency completely destroyed.' This is perhaps the first description of the disease, antedating the work of Osler by several years.

DIGESTIVE DISORDERS

There are no less than thirteen chapters dealing with disease occurring in the digestive organs. Starting with ulceration in the mouth and tongue, he goes on to mention 'stricture of the oesophagus from scirrhous degeneration' as 'the cause of continuous and persistent difficulty of swallowing in advanced life'. The term 'paralytic dysphagia' is used to denote pseudobulbar palsy; and its connexion with lesions of the medulla and cerebrovascular disease is described. There is a very odd classification of dyspepsia, however, comprising 'follicular', 'acute atonic' and functional or 'chronic atonic' types. The common symptoms of anorexia, flatulence and aerophagy are discussed in a fashion incomprehensible today. Nevertheless, the clinical course of carcinoma of the stomach is so well portrayed that it must stem from extensive experience in the days before laparotomy was feasible.

When Maclachlan discusses constipation, he is touching on a topic of perennial interest to Chelsea pensioners. His approach is quite modern, starting with 'torpor of the rectum' and eventually going on to describe the spurious diarrhoea of faecal impaction. He states 'the faeces collect and become firmly impacted in the bowel. In some cases the obstruction is so complete as to occasion symptoms of ileus . . . immense accumulations of arid faeces, resembling dry mortar, take place'. He goes on 'In the case of an old officer attached to Chelsea Hospital, half a chamber utensil of hardened faeces was removed from the bowel in the course of one day, and nearly as much on the following morning'. He mentions the faecal masses found on abdominal palpation in constipated old people, which, as he says, are easily detected in emaciated subjects and may mislead an unwary physician.

After giving an account of cirrhosis of the liver 'where abuse of spirituous liquors seems to be the great exciting cause', he deals with lesions in the biliary passages. 'There is scarcely a disease of the gall-bladder met in early or middle life that is not still more frequent in advanced age'. His account of gallstones is excellent. 'I have seen one the size of a pigeon's egg; and, in the case of a late Deputy-Inspector-General of Hospitals, one of that bulk had worked its way through the ulcerated structures into the intestines, causing death'. Strangely enough, the present author had a similar experience with the wife of a Chaplain to the Royal Hospital, when the stone was voided per rectum and the patient fortunately survived her ordeal of excruciating colic.

DISEASES OF THE URINARY TRACT

Acute nephritis is noted as being rare: 'there has not been a single instance among the In-pensioners of Chelsea Hospital these twenty-three years'. Maclachlan thinks

that pyelitis 'is not frequent in old age, unless connected with gravel or stone, or secondary to catarrhal inflammation of the bladder, constituting a most important complication of this common disease'. However, he is somewhat confusing over chronic nephritis, the 'gout kidney', 'granular degeneration' and Bright's disease, all of which he discusses separately. After considering the differential diagnosis of haematuria and giving a detailed description of the consequences of an enlarged prostate, he goes on to consider enuresis. 'Incontinence of urine occurring in elderly people is very generally a secondary infection'. He thinks, nevertheless, that 'paralytic weakness of the sphincter vesicae, and not improbably senile atrophy of this muscle... seems the more immediate source of the infirmity'. While noting the presence of incontinence in paraplegic patients, he fails to mention any connexion with lesions of the central nervous system. Yet, retention of urine, either due to enlargement of the prostate or to neurological disease, is familiar to him. 'Apoplectic and epileptic old people are particularly liable to it.'

EXCURSUS

It is very salutary to learn how much geriatric medicine and pathology was known to the Physician of the Royal Hospital, Chelsea, a hundred years ago. Our modern textbooks merely reveal the therapeutic wealth which has accrued during recent decades. After all, Maclachlan only mentions some twenty drugs in his discussions on treatment. By modern standards, many of these were woefully ineffective. Opium, digitalis, quinine, mercury, colchicum, potassium iodide and the vegetable purgatives were the most potent weapons in his armamentarium. He had no antibiotics, no really effective diuretics, no anti-diabetics, and he was quite unaware of any antiseptics. In such conditions, the treatment of disease among Chelsea pensioners must have largely been a delaying action, trying to postpone the final, inevitable, terminal dissolution. Yet, there are still many important lessons to be learned from the careful clinical vignettes which abound in this book. Maclachlan professes 'only to present in an accessible form, blended with my own experience and observation, the scattered information, the floating knowledge, oral and written, the common property of our liberal profession'. He succeeded so well that any modern specialist in geriatric medicine could gain both pleasure and profit from the perusal of his work.

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