INDIVIDUAL STUDIES

THE MANAGEMENT OF HEART DISEASE IN GENERAL PRACTICE

Haddenham

Heart disease is responsible for a great part of the chronic illness which the general practitioner treats. In many respects heart disease in the community differs from that which the student sees in hospital. The newcomer to general practice may find himself bewildered by this unaccustomed view of human sickness; not only does the clinical picture seem unfamiliar, but he is without the precise measurements that radiology and the cardiac catheter provide. He must be guided by what he can see, hear and feel at the bedside.

In this practice of 2,800 patients, 20 are being treated for chronic heart failure (table I). In addition 26 suffer from cardiac pain or the after-effects of myocardial infarction. A further four have aortic valve disease without pain or failure, and two women have had mitral stenosis treated with valvotomy.

TABLE I

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
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<tbody>
<tr>
<td>Heart failure</td>
<td>5</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>Angina and infarction</td>
<td>18</td>
<td>8</td>
<td>26</td>
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<tr>
<td>Aortic valve disease</td>
<td>3</td>
<td>1</td>
<td>4</td>
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<tr>
<td>Mitral stenosis</td>
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There is a notable difference between the sexes in their susceptibility to heart disease.

Men are more prone to angina and infarction than women: 8.7 per cent of the 69 men of 70–79 years were affected compared with 1.9 per cent of the 107 women.

In contrast, more women in this age group presented with chronic heart failure—6.5 per cent compared with 2.9 per cent of the men.

(tables II and III). This sex difference is also seen in the other age groups.

This suggests that men are prone to acute ischaemic heart disease which is fatal within a few years, while more women survive to greater ages, suffering from chronic degenerative disease of better prognosis.

TABLE II
FREQUENCY OF CHRONIC HEART FAILURE

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>No. in age-group</th>
<th>No. with heart failure</th>
<th>Per cent</th>
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<td>0</td>
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<td>80–</td>
<td>Male</td>
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<td>Female</td>
<td>47</td>
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TABLE III
FREQUENCY OF ANGINA AND INFARCTION

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<tr>
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<th>No. in age-group</th>
<th>No. with angina etc.</th>
<th>Per cent</th>
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<td>80–</td>
<td>Male</td>
<td>29</td>
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<td>6.9</td>
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<td>Female</td>
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</table>

The medical student is taught about the patients that come to teaching hospitals, but these are a highly selected group. Such patients with heart disease are mostly young and middle-aged people with valvular or congenital lesions. Recognizing murmurs and investigating the heart with x-rays and the cardiac catheter are important to the student's education in clinical methods, but have little to do with the practical problems he will have to face in the community as a general practitioner. Here the work lies in the treatment of chronic heart failure in the elderly. The aetiology is the least important part. What matters is the treatment.

Diagnosis

How is heart failure to be diagnosed? There is more difficulty and confusion here than is generally admitted and many old people
are treated at home for heart failure who have some other condition. In old age disease is not seen in pure culture; other disorders exist with heart failure in the same individual and the classical symptoms and signs are difficult to interpret. It is important to take stock and decide which really mean heart failure and which are misleading.

**Breathlessness.** This is essential to the diagnosis. A patient who is not breathless on exertion is not in heart failure. At first breathlessness is induced only by activity, such as hurrying on the level or walking upstairs. As the heart fails further the patient is unable to move about the house or undress without distress. When all cardiac reserve is exhausted he is breathless at rest and this is worse in the supine position than when sitting up.

Attacks of breathlessness at night—paroxysmal nocturnal dyspnoea—which wake the patient from sleep are characteristic and leave the diagnosis in no doubt. Curiously, this symptom, which one would think to be so alarming that no one would suffer it without telling his doctor, is often not mentioned unless asked for, or described in an ambiguous fashion such as a discomfort, a tightness in the chest, or a heaviness. The patient may complain of attacks of coughing rather than breathlessness. Attacks may be brought on by a chesty cold.

Breathlessness is frequently a symptom of some other condition and it is necessary to find objective evidence of a damaged heart before it can be assumed to be due to heart failure. Bronchitis, asthma, obesity and anaemia are the commoner conditions to be excluded. An observation which is of value in doubtful cases is Cheyne-Stokes breathing during sleep. This is evidence that the breathlessness is due to heart failure and the patient’s spouse should be asked whether it occurs.

**The pulse.** A rapid pulse rate at rest suggests heart failure. Auricular fibrillation is evidence of cardiac damage, but does not necessarily mean failure; the hearts of many old ladies fibrillate quietly away at modest rates without symptoms. Rapid rates of fibrillation are usually accompanied by heart failure and it is then essential to reduce the ventricular rate if the failure is to be relieved. The rate must be counted at the apex and not the wrist, since the latter will be misleadingly slow if many ventricular contractions are too feeble to reach the radial artery. The apex should be felt for at least a minute in doubtful cases before deciding whether the action of the heart is regular or irregular; the ventricle may beat regularly for short periods while the auricle is fibrillating. Frequent extrasystoles may mimic fibrillation and be distinguished only by the electrocardiogram.

**The heart.** The heart size is difficult to assess in elderly people
when the apex is obscured by fat or emphysema, or the chest de-
formed by osteoporosis. Of greater significance is the forceful,
heaving impulse of the hypertrophied ventricles.

Murmurs have little significance for practical purposes in older
patients, but it is important to recognize the murmurs of aortic
valve disease, since surgery offers hope to some. The most important
sign to be heard over the heart is triple rhythm, since it is reliable
evidence of a failing heart.

_Crepitations at the lung bases._ Crepitations at both bases which
persist after a few deep breaths indicate congestive changes in the
lungs. Crepitations may occur in old people without any disease,
but are then quickly cleared by breathing and coughing.

_Oedema._ This is often erroneously taken to mean heart failure.
Women who have to stand for long periods get swollen ankles,
particularly in hot weather. Most old ladies by the time they have
raised a family and been laid up with confinements, illnesses and
operations have had deep vein thrombosis in the legs, when the
resulting oedema is usually more pronounced on one side than the
other. Tight garters make it worse. Much harm may be done by
giving diuretics over-enthusiastically to old ladies with obstructed
veins; the response is poor and elastic stockings are better treatment.
The sign to look for is sacral oedema. In severe cases the whole
trunk may be involved, and there may be pleural effusion as well.
Drugs play a part in producing oedema, particularly steroids and
phenylbutazone. Nephritis is relatively uncommon among elderly
patients, but the urine should be tested; a little albumin is usually
present when there is heart failure, but a heavy concentration
suggests a renal origin for the oedema.

_Venous congestion in the neck._ It is easy to be misled by minor
degrees, which should be ignored unless present on both sides and
persistent in all stages of respiration. The patient should be exam-
ined in a good light with no clothing round the neck. The neck
should be neither extended nor rotated. The external jugular vein
may be distended on one side for a variety of reasons unconnected
with the heart; one can sometimes see that it is compressed as it
passes over the clavicular head of sternomastoid. Pulsation in the
deep veins of the neck is a reliable sign, the level of maximal pulsa-
tion being a guide to the severity of the failure.

_The liver._ A smooth, tender enlargement of the liver is additional
evidence of heart failure, taken with the other signs. Pressure on
the liver increases the distention of the neck veins.

_The electrocardiograph._ The portable, battery-operated electro-
cardiograph should be part of the general practitioner’s equipment.
There is no difficulty in learning how to use it and one soon learns
how to recognize the commoner abnormalities in the tracing. Nobody should be deterred by the feeling that he will never understand the minutiae; these can be left to the specialist. The following are the conditions commonly met with in elderly patients on which the electrocardiograph can throw light.

Arrhythmias. The commonest is auricular fibrillation. It is not always possible to be sure whether it is present by clinical examination and in doubtful cases it is sensible to make sure with the electrocardiograph before submitting the patient to the hazards of digitalis therapy.

Extrasystoles, paroxysmal tachycardia and flutter are also diagnosed with certainty.

Infarct. The general practitioner is the first to be faced with the responsibility of diagnosis in this emergency. The electrocardiograph gives useful information, but it is not infallible and sometimes repeated tracings are necessary, and it provides only part of the evidence, to be taken with the history, the clinical picture, the sedimentation rate, white cell count and transaminase estimations.

Are the symptoms due to heart disease? The electrocardiograph can rarely answer this. It can show that the heart has been damaged; there may be ventricular strain, heart block or bundle branch block, or signs of ischaemia and infarction. These will make it more probable that breathlessness or pain is of cardiac origin, but the final answer rests with the patient's story and physical signs. Too many patients are treated for heart disease because of minor irregularities in a tracing.

Differential diagnosis

Obesity. Fat people are breathless because of the extra work they must do to move their weight about. Fat people with heart disease are greatly benefited by losing weight. Patients confined to bed may put on weight unless the diet is controlled.

Anaemia. It is essential to have the haemoglobin estimated before starting treatment, and at intervals afterwards. Anaemia may give rise to the same symptoms as cardiac failure in patients with normal hearts and increases the severity of the symptoms when the heart is failing. The majority of cases of anaemia seen in the community are due to nutritional iron deficiency or to chronic blood loss. Pernicious anaemia is comparatively rare, but without blood tests time will be wasted sooner or later by treating pernicious anaemia with digitalis.

Case 1. Mrs E.E.P. A widow of 70, living with her daughter and family. In March 1965 she sent for the doctor complaining that she was breathless on exertion, and for the last few nights had woken feeling tight round the stomach, unable to fetch her breath. She was overweight. BP 230/120, apex rate 120, fibrillating. Heart size indeterminate; normal sounds. Slight oedema of the ankles. Haemoglobin on 10 March 1965 91 per cent.

ECG confirmed auricular fibrillation and showed ST and T changes suggestive of left ventricular strain. She was given digoxin 0.25 mg bd but started vomiting
after taking five tablets. She improved with digoxin on alternate days and mersalyl 2 ml twice a week.

In October she had another attack of nocturnal dyspnoea and looked pale. Hb 35 per cent. Further investigation showed this to be a typical case of pernicious anaemia and she responded very well to injections of vitamin B₁₂ and has remained well since.

**Bronchitis.** This is easily confused with heart failure and the two conditions often exist together. The heart and lungs are related in the body more closely than in the textbooks, where they come in different chapters, and the differential diagnosis at the bedside is by no means as easy as is suggested. Chronic bronchitis is eventually complicated by cor pulmonale, and the congested lungs in heart failure are prone to secondary infection. In old age both organs suffer the ravages of time together. Wheezy breathlessness, productive cough, and evidence of airway obstruction provided by the de Bono whistle or the Wright peak flow meter all point to chronic bronchitis.

The difficulty in deciding whether breathlessness is cardiac or pulmonary in origin presents in its most urgent form in the small hours of the morning when the doctor is called to the patient in sudden distress. Is it bronchial asthma or acute left ventricular failure—cardiac asthma? The patient is too ill to stand much examination and the signs are unreliable. The neck veins will be distended in any patient struggling for breath and there will be moist sounds in the chest in either condition. It is difficult to localize the apex beat or hear murmurs in the acutely distressed patient, but it is important to listen carefully for triple rhythm as this establishes the diagnosis of heart failure. The most useful information comes from observing the breathing. In heart failure it is rapid and shallow, while in bronchospasm it is slow and deep. There may be wheezing in both but it will be more marked in bronchospasm.

This distinction is of vital importance in treatment and must be made at night when observation and thought do not come easily. Morphia works like a magic charm in heart failure, but is poison to the patient with bronchial asthma. If there is any doubt the safest course is to give aminophylline intravenously, since it is safe and effective in both. There are occasions when it is impossible to make the diagnosis with certainty, indeed some patients have both bronchial and cardiac asthma.

**Case 2.** Mr A.H.R. A retired colonial service administrator. For most of his life he had suffered from severe bronchial asthma, as did his sister. This responded miraculously to prednisolone and the last few years of his life were made worth living by 5 mg once or twice a day. The attack recurred as soon as this was stopped, but responded promptly to aminophylline intravenously. At the age of 77 he had a myocardial infarct from which he made a good immediate recovery and was well until the age of 84, when he started to have increasingly severe attacks of nocturnal dyspnoea, in spite of the prednisolone. It was
impossible to decide whether these were bronchial or cardiac asthma, but in the last week of his life they ceased to respond to aminophylline, but were relieved by morphia. He died at the age of 85 in coma after a succession of attacks of what was obviously acute left ventricular failure.

_Thyrotoxicosis._ This must be suspected when heart failure is intractable with rapid fibrillation and loss of weight. Sometimes there is swelling of the thyroid, but otherwise few signs of thyroid disease. The radioactive iodine tracer test is helpful, but not infallible. The disorder may have to be treated on suspicion, the diagnosis resting on the response to therapy with neomercazole or radioactive iodine.

**Treatment**

*Rest.* The elderly patient with heart failure must learn to live within her reserves. It is common to find old ladies living alone, pottering endlessly about all day doing the housework and bringing in the coal. They remain oedematous in spite of treatment. Rest can be provided by moving the bed downstairs, arranging for a home-help and someone to do the shopping. But often this is not enough and a diuresis does not start until the patient is put to bed. This is best done in hospital; in the country the cottage hospital is ideal for this. She can be kept in bed for a week or two, the dose of digitalis adjusted and mersalyl given every other day. She can spend a further week getting up and sitting in a chair before returning home to stay well on a maintenance dose of digitalis and mersalyl once a week. If breathlessness increases in spite of treatment the lung bases should be carefully examined, as pleural effusion may be responsible.

_Digitalis._ This is now recognized to be a much more dangerous drug than was formerly thought and much harm is done to old people by its injudicious use, particularly when combined with oral diuretics. It was taught that the adult needed about 20 tablets of digitalis leaf, gr 1 or digoxin 0.25 mg to saturate his tissues; that this should be given over a period of a few days or a week, thereafter reverting to a maintenance dose of one tablet once or twice a day. When the patient felt sick, the pulse rate slowed unduly, or coupling appeared, she had had enough. The truth is that old people are highly sensitive to small doses; that overdosage is difficult to recognize and can produce any sort of arrhythmia, including tachycardia and fatal ventricular fibrillation; and these effects on the heart may precede nausea and vomiting, may lead to increasing failure, tempting the doctor to increase the dose and make things worse (Dall 1965). Less well-known toxic effects include loss of weight, muscular weakness and mental confusion, amounting at times to psychosis with hallucinations. The toxicity of digitalis is increased by oral diuretics, which lower the intracellular potassium.
Give old people digitalis with caution, starting at the rate of 0.25 mg a day, or twice a day. If the patient is already on oral diuretics this dose may be too much. The maintenance dose is commonly less than 0.25 mg a day and the quarter-strength tablets ‘lanoxin paediatric-geriatric’ (Burroughs Wellcome) should be used as a routine. The patient must be seen two or three times a week until the dose is correctly adjusted and at regular intervals thereafter. It is the patient whose name is inadvertently left off the visiting list who is later found with gross digitalis intoxication. Addition of oral diuretics to the treatment calls for a reduction in the dose of digitalis. Difficulties arise when the patient is attended by more than one doctor, unless records are kept and carried on visits. In view of these insidious dangers digitalis should be used for the elderly only on good indications, such as rapid fibrillation, and attacks of nocturnal dyspnoea:

Case 3. Mrs S.E. A frail, little, old lady living with her invalid sister in a council bungalow. In 1962 at the age of 78 she complained of a chesty cold, with cough, and shortness of breath. Pulse 96, regular. BP 160/90. Pale. Chest movements poor, with rhonchi at the bases. Chest x-ray normal. FEV 0.6l, of which 0.5l was expired in the first second. Hb 92 per cent. She was considered to be suffering from emphysema and was treated with short courses of oxytetracycline, digoxin 0.25 mg on alternate days, prednisolone 2.5 mg at night. On 19 October 1965 she became more breathless and her ankles were swollen. She had taken no tablets for two weeks and was asked to start taking digoxin 0.25 mg daily and ‘neonaclex K’ two tablets each morning. On 23 October 1965 she was much worse, with cough and vomiting. Temperature 100° F, pulse 108, irregular. Oedema of the legs and crepitations at the lung bases. ECG on 24 October 1965 showed severe digitalis intoxication with extrasystoles, coupling, and short periods of ventricular tachycardia. Digoxin and ‘neonaclex K’ were stopped and treatment started with ampicillin and effervescent potassium tablets. She improved rapidly and on 1 November 1965 the ECG had reverted to normal, with regular rhythm and normal complexes.

This case illustrates the dangers of digitalis intoxication in a frail, old lady, a severe degree developing in four days after taking five tablets with an oral diuretic-potassium compound. It is all the more unfortunate since there was never a clear indication in the first place for digitalis and she remains well six months later without it, deriving much benefit from isoprenaline by inhalation (‘medihaler isoforte’).

Diuretics. Diuretic therapy in the home is often disappointing. In spite of mersalyl injections or diuretics by mouth old ladies’ legs stay swollen. Is this because we use the wrong drugs, or do we hope for too much? There is a bewildering number of drugs to choose from and all may do harm. The more effective the diuretic the greater is the risk of serious electrolyte disturbances, uraemia and digitalis intoxication.

There are three reasons why treatment may fail:

1. The patient may not take the tablets the doctor has prescribed.
Old people living alone become muddled and forgetful. Treatment becomes too complicated for them. It is unrealistic to expect an old person to take six or seven different preparations in a day, which may well be prescribed if she has several different diseases to be treated. What happens as often as not is that she packs them all away in a drawer and forgets about them.

The number of drugs must be kept to a minimum—two or three is plenty—and they should be dispensed in containers clearly marked with the instructions and the name of the drug. The patient should be asked to continue taking them until her doctor tells her to stop and to let him know when the stock is running low. It is helpful if she keeps them to hand to show the doctor when he visits.

2. The oedema is not due to heart failure, but to some local cause, such as obstruction in the leg veins, or tight garters. Very often these factors operate at the same time as heart failure. Treatment gets rid of sacral oedema, but the ankles stay swollen.

3. The drug fails to correct the physiological disorder causing oedema. Diuretics act by inhibiting the reabsorption of water and sodium in the renal tubules. They do not increase the glomerular filtration rate or improve the circulation to the ageing, failing kidney. At best they relieve a symptom and can never remedy the underlying fault.

New drugs are constantly being put on the market and the general practitioner is well advised to stick to one or two that he knows. None of the oral diuretics is more effective than mersalyl, which has the advantage of being cheap, and causing less loss of potassium, thus not upsetting the action of digitalis. The injections must be given by the doctor or the district nurse and so are not forgotten; their visits are an important social contact for elderly people who may be very isolated. Mersalyl produces a metabolic alkalosis due to an increased output of hydrogen ions, which limits its effectiveness. To counter this ammonium chloride must be given, two to four tablets of 0.5 grams, preferably enteric coated, before or with each injection.

The thiazide group are less effective than mersalyl. They cause loss of potassium and chloride as well as sodium. They have the disadvantage of lowering the glomerular filtration rate and may aggravate diabetes mellitus or gout. Potassium supplements must be added when thiazides are given over long periods, to elderly patients, and when digitalis is used. Potassium should be given as the chloride and at least three grams a day is necessary. Most preparations in current use have grave disadvantages. Effervescent potassium tablets do not contain potassium chloride; potassium chloride tablets and mixtures containing potassium cause gastric
irritation and patients rebel against taking them; enteric coated potassium tablets must be avoided, since on their own they pass through the bowel without disintegrating and combined with thiazides they may cause ulceration of the small intestine.

The one preparation which appears to be free of these dangers is ‘slow-K’ (Ciba), each tablet of which contains 0.6 grams of potassium chloride in a slow release base. The tablets are palatable and do not cause gastric irritation or ulceration of the small bowel. Five tablets should be given on each day that thiazides or frusemide are administered.

Frusemide, ‘lasix’, is an effective diuretic and has the advantage of causing slight increase in the glomerular filtration rate. It is available in 40 mg tablets, one or two of which may be given on two or three mornings a week. Potassium supplements are necessary.

Triamterene, ‘dytac’, is unique in promoting retention of potassium. It is relatively ineffective given alone, but potentiates the action of thiazides and helps to correct the loss of potassium they cause.

Ethacrynic acid, ‘edecrin’, is a powerful diuretic on its own and acts synergistically with others. It causes loss of potassium, chloride and hydrogen ions and serious electrolyte disturbances may follow. It has the disadvantage of lowering the glomerular filtration rate.

Spironolactone, ‘aldactone’, inhibits the action of aldosterone, the adrenal hormone which promotes the retention of sodium. It is effective as a diuretic when there is an excess of aldosterone in such conditions as cirrhosis of the liver. It is expensive and there would seem to be little place for it in the treatment of congestive heart failure in the elderly at home.

In domiciliary practice diuretic therapy should be kept simple and safe. Mersalyl, 2 ml, or frusemide, 40–80 mg two or three times a week will keep most old people reasonably well. If one proves unsatisfactory it is reasonable to try the other; the two may be combined in resistant cases. It is impossible in the home to measure fluid intake and output, but the weight is a useful guide, since a patient with oedema of the legs and sacral oedema will have retained a stone or more of fluid, and diuresis will be followed by a rapid fall in weight.

Case 4. Mrs E.T. This lady has been under my care since 1954, suffering from cervical spondylosis, abdominal pain for which no cause has been found, and recurrent attacks of bronchitis each winter. Since January 1965 she has been in congestive heart failure, treated at home with digoxin and diuretics—frusemide and mersalyl separately or in combination—with as much rest as was possible.

In April 1965 she began to have attacks of nocturnal dyspnœa. In March 1966 there was sacral oedema, massive oedema of the legs and triple rhythm.
ECG showed sinus rhythm and left axis deviation. June 1966 she was worse; in spite of salt restriction, digoxin, frusemide, and mersalyl three days a week preceded by ammonium chloride there were bullae of oedema fluid on both legs. She was admitted to the cottage hospital. Haemoglobin 96 per cent. Urea 45 mg/100 ml, sodium 130 meq/l, potassium 42 meq/l, chloride 77 meq/l, bicarbonate 32 meq/l. She was treated with rest in bed, digoxin, mersalyl and ammonium chloride, the frusemide and salt restriction being discontinued. In three weeks the oedema had disappeared and the weight had fallen from 9st on 28 June 1966 to 7st 6lb on 20 July 1966.

This case illustrates the dramatic improvement brought about by rest in bed in hospital when all measures at home had failed, and the value of the weight in monitoring progress.

A little swelling of the ankles is best ignored if there is no venous congestion, sacral oedema or attacks of paroxysmal nocturnal dyspnoea. We must treat the patient and not the ankles and beware of pressing treatment harder than the patient can tolerate. To the elderly patient a pair of swollen ankles is preferable to the discomforts and dangers of intensive diuretic therapy. If sacral oedema and breathlessness persist something more is needed, but it is unlikely that increasing the dose or changing to another drug will bring much relief. Attention should be directed to the patient’s general condition and the state of her heart. The dose of digitalis should be reviewed, any infection in the chest treated and the haemoglobin, electrolytes and blood urea checked. The intake of salt should be reduced. Most important of all the patient should be put to bed for a week or two. Rest in bed is in itself an effective diuretic.

Only if bed rest and mersalyl fail is it justified to intensify diuretic therapy, using triamterene or spironolactone in combination with thiazides, frusemide or mersalyl.

‘... it is possible to pay too high a price to gain complete symptomatic relief. Excessive diuretic therapy may, in spite of the persistence of some oedema, lead to a rising blood urea, serious electrolyte disturbances, hepatic coma and the hyponatraemic state with its associated gross derangement of cellular function. The physician must display understanding and judgement in his employment of these agents and ensure that his own wisdom does not fall short of that of the body.’ (Wilson 1963).

Antibiotics. The congested lungs in heart failure are susceptible to infection and sometimes a course of antibiotic therapy improves breathlessness when all else has failed. It is prudent to give patients with heart disease an injection of influenza vaccine each winter.

Sedatives. Patients in heart failure tire easily and need sleep, which is frequently denied them by discomfort and the need to spend the night propped up on pillows. Barbiturates may cause confusion; a useful mixture for the night is:

| R/Tinct. opium | min 15 |
| Choral hydrate | gr 15 |
Liquid extract of liquorice  min 10
Water to oz 1/2
One or two tablespoonsful to be taken at bedtime and repeated later if awake.

**Hypertension.** In old people reduction of blood pressure should not be attempted without good reason. If heart failure is accompanied by hypertension reducing the blood pressure will decrease the load on the heart and make the failure easier to treat. Bethanidine and guanethidine are best avoided, since old people are susceptible to postural hypotension and may injure themselves if they fall. In some patients adequate control of blood pressure is obtained by thiazides or frusemide given daily. It is reasonable to start treatment with digitalis, diuretics, potassium and rest, adding methyldopa later if the blood pressure remains high.

**Prognosis**

Heart disease in old age is a slowly progressive disorder; patients respond well to treatment and live on for years after the first symptoms, learning to make the best of what is left to them.

**Case 5.** Mrs W.D., aged 81. One evening in April 1964 an ancient motor car was driven up to the surgery, bearing the patient, who had become breathless suddenly while being taken for a country drive by her husband. She was having an attack of cardiac asthma of appalling severity, cyanosed, semiconscious and covered in a cold sweat. Morphia gr 0.25 was given through the car window and she was driven home and put to bed. The next morning she was feeling well, apart from a little breathlessness on exertion. Apex rate 88, regular. BP 190/100. Heart not clinically enlarged, normal sounds. Slight oedema of the ankles. Hb 65 per cent. She was treated with digoxin, frusemide and ‘fersamal’, and for the last two and a half years has remained well, with no further attacks of cardiac asthma. In 1965 her husband took her on their usual summer holiday by car to Austria, where they drove from one camping site to the next, sleeping in a tent.

These patients are most rewarding to treat. They can be helped and need never be abandoned to linger in a breathlessness, waterlogged state of misery because their condition is thought to be hopeless. In few conditions have we such opportunity to relieve the symptoms of chronic, disabling disease, and in few conditions are there such dangers of making the patient worse by ill-considered therapy:

"There remains for brief notice the heart that fails in old age without displaying any of the major antecedent troubles and in a less conspicuous way. As age advances a general lowering of vitality occurs and nutrition begins to fail and the body wastes. An apical systolic murmur appearing for the first time may have value as an early guide to a dilating heart. The bodily reserves have usually begun to decline long since and among these is cardiac reserve, displaying itself by breathlessness on effort. In the decline there is often seemingly a slow race between cardiac capacity and the powers of the body generally. The heart is losing its reserves, but the man is becoming enfeebled; owing to local arterial
trouble or general weakness his limbs serve him less well, his will or inclination to carry out his old pursuits declines, he requires and takes less food; and thus, as the heart weakens so simultaneously the body is brought more and more to rest and the burden falling on the heart lightens. The enforced decline of bodily activity constitutes a spontaneous remedy, which tends to prolong life, sometimes lengthening it remarkably though always precariously. The balance is unstable since the reserves are gone, and is quickly broken by any unusual event, such as an enforced period of activity, or an infectious disease such as bronchitis or pneumonia. In old men failure, when it comes, terminates life quickly and often with relatively few signs. The aged pass out unobtrusively, after brief illness or without warning, while sitting in their chairs or sleeping in their beds.” (Sir Thomas Lewis 1943).

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REFERENCES


Huxham on prescribing

‘I have given no formal Prescriptions of Medicines, as I think it favours more of Pomp and Ostentation than real Use.—He only, who thoroughly understands the Nature of the Disease, knows truly what Medicines it requires. I have met with many, who could readily babble over the whole Pharmacopoeia, that did not so much as understand even the very Pulse. A simple and neat Method of Prescription indeed I admire, but not a Hotch-Potch of Medicines, fetched from all Corners of the Earth, and many times prescribed for the Sake of Novelty.—But vastly more rediculous is the Practice of such, who rashly proclaim and exhibit their Nostrums or Arcanums as good in all Kinds of Disorders, as if it was in the Nature of Things, that the self-same Medicine, whatever it may be, should be beneficial in a Habit of Body too greatly constringed, and yet be equally useful in a too relaxed state of it—that it should equally quench the Fire of a burning Fever, and cure the flow of a Dropsy.—But away with these trifles.