

THE FAMILY DOCTOR, HIS MIDDLE AGED PATIENT, AND CORONARY DISEASE*

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Disease of the coronary arteries is responsible for a large amount of the general practitioner's work today, (Sanders, K., 1956) particularly amongst those patients whose disability is an immediate danger to life. Nearly one in ten of the male population in the age group 60—69 years have been found to have affected coronary arteries (Brown *et al.* 1957). There is a temptation to consider this as merely part of the ageing process, but in fact 55—66 years often seems to be a period of particular danger from coronary disease, and there are reports in the literature on subjects less than forty years old (Yater, W. M. *et al.* 1948; Gertler, M. M. *et al.* 1951). Obviously, here is a matter of great concern to all family doctors, as well as to cardiologists, pathologists, research workers, and psychiatrists. In order to do his best for this large group of seriously ill people, the general practitioner often has to be a combination of all four of these, and each role will now be considered in turn.

The General Practitioner as a Cardiologist

The general practitioner as a cardiologist is found at work first in his surgery. There he will meet, fairly frequently, cases of angina pectoris. These patients usually present their story in an unusually plain fashion. It is as if the patient himself is impressed by this pain that comes on when he runs for a bus, or after a heavy meal, or when he is excited. He feels that there is no need to elaborate to attract his physician's attention. The more easily the pain is produced, and the more frequently he has these attacks, the more reason for concern. On examination, the patient may be overweight, although there is a good deal of evidence (Garn, S. M., *et al.* 1951; Levy, R. L., *et al.* 1946; Keys, A. 1954; Kurlander, A. B., *et al.* 1956), that the fat and the lean are no more at risk than those of average weight. He may be hypertensive, although he may have had a drop in blood pressure following minor degrees of infarction hitherto unrecognized, and this finding is probably more sinister than hypertension. He may be anaemic or may have signs of aortic valvular disease. The patients are most frequently, perhaps five times out of six, men, and in their sixth decade. In many cases, the pain can be reproduced in the surgery by getting the patient to step on and off four piled up telephone directories. In one series (Brown, R. G., *et*

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al. 1957) more than ten per cent of anginal cases showed abnormalities in the electrocardiogram. These patients must be treated with caution, particularly when the symptoms are of recent onset and of rapidly increasing severity. It is not easy to tell a man in the prime of life, who has a responsible job, that he must retire from activity for six weeks, or that he must go into hospital for anticoagulant therapy. But, if the doctor is dissuaded from advising this course, the patient may drop dead quite soon. On the other hand, he may do nothing of the sort. I always find this situation very difficult to evaluate.

In contrast to this casual appearance in the surgery, the practitioner's first contact with a case of coronary disease may be an urgent telephone call at 2 a.m. to a patient who, it is claimed, has "had a heart attack," and he may be found dead. Coronary thrombosis is the commonest cause of sudden death in middle age. There may be a history of recent exertion, followed by rest or sleep, during which the blood pressure will have fallen, and the consequent slowing of the circulation predisposed to the formation of a thrombus. If the patient is still alive there may be the characteristic pain, varying degrees of collapse, manifestations of heart failure—particularly cardiac asthma, pulse irregularities, or there may be an altogether different condition!

In severe cases, where there is collapse, pallor, sweating and severe pain, I think it is generally agreed that immediate hospital admission is desirable, and the patients' wishes, even if they are able to express them, must be considered very little. One is always conscious of the risk involved in moving the patient, but, as we have all witnessed, ambulance men show remarkable skill in manoeuvring the severely ill round corners and down stairways. I usually give these patients $\frac{1}{2}$ grain of morphine sulphate, and 15,000 units of heparin intramuscularly. The only patient I have seen who presented a typical picture of coronary thrombosis, and who was not relieved by morphia, was found post mortem to have a dissecting aneurysm of the aorta. If I were practising in a rural area, I should probably carry oxygen in the boot of the car, but it is easy in a town to arrange for the ambulance to bring this. And so the patient disappears for the time being from the family doctors' view.

Much more difficult is the intermediate type of case, where in fact the diagnosis may be in doubt. I prefer never to be certain of the diagnosis until it is confirmed by ECG. Until recently I had the impression that even that august machine could be wrong, but a recent leading article in the *Lancet* (1958) points out that if twelve leads are used the tracing is likely to be abnormal, if not characteristic in all cases of coronary thrombosis. It is important to know the diagnosis and it is important to know fairly quickly. The

infarction may after all be extensive, and anticoagulant therapy in hospital be desirable. If the infarction is present, but mild, then one can begin to work out the home management of the case, treating heart failure, arranging for the district nurse to call, and explaining the position to the relatives. I find it best for the patient himself to realize only gradually, over about a week, that he is to be out of action for some time. I think it is wrong even in general practice, to make a diagnosis of coronary infarction without ECG confirmation. Even the most infallible clinical judgment can be wrong. Paton (quoted in the *Lancet* 1958) reports the result of 266 post-mortem examinations in an American teaching hospital. In 52 cases, previously undiagnosed, coronary thrombosis was found. In the remaining 214 cases, a diagnosis of coronary thrombosis had been made, in 94 wrongly. Indeed, where the diagnoses were made without ECG confirmation, they were wrong 24 times out of 37. These figures may imply a low standard of clinical diagnosis, and it would be interesting to have comparable figures from our own teaching hospitals. Error is possible, of course, in both directions. One textbook (Garland and Phillips, 1953) gives ten per cent of attacks as painless; weakness, dyspnoea, or cardiac asthma predominating. In other words, ECG examination may well be necessary whether coronary thrombosis is suspected or not, in cases presenting with sudden, recent cardiac symptoms.

In these cases, to decide whether to move the patient to hospital for his ECG, request admission as a "query coronary thrombosis," or ask for a domiciliary visit from a cardiologist with an electrocardiograph, is always difficult. If we move him, the relatives are relieved of their responsibilities, and likewise the doctor. The patient is not in much of a position to argue. However, hospital admission can be very traumatic, especially for a nervous person. He may find himself in bed next door to a patient with the same complaint, who may mysteriously disappear during the night. Snatches of overheard conversation may result in his being discharged home with a sense of fear much more difficult to treat than the original complaint. Where there is a restful domestic atmosphere, the patient is happier in his accustomed surroundings.

Because of all these considerations, I find a domiciliary visit by a cardiologist invaluable. This can usually be arranged within twelve hours at the most. In the meantime heparin can be continued six hourly in conjunction with other measures. With the consultation arranged, the patient and his family are strongly reassured that everything possible is being done, and the change for the better in the home atmosphere is quite noticeable. Further, with the passage of a few hours, the prognosis, as well as the diagnosis, will often become much clearer. Few patients seem to deteriorate

in the meantime, a fact which has been summed up in the aphorism "If the patient is alive by the time of the doctor's arrival, he will probably survive". I have always found this saying strangely unhelpful.

There is then a strong case for domiciliary visits by a cardiologist to patients with suspected coronary thrombosis of moderate or mild degree. Sometimes advice will be needed on the home management of the case, but quite often the main purpose of the visit is to establish the diagnosis by means of the ECG. I believe that there is a need for a domiciliary ECG service by a technician, as most general practitioners in this country do not possess a machine of their own. It is true that the responsibility will then devolve on us to read the tracing; but in equivocal cases this can always be sent to a cardiologist for an opinion, which is much easier than bringing the consultant to the patient.

Anticoagulant Treatment

There is now general agreement that in severe cases, or in those likely to develop complications, anticoagulants reduce the mortality of the primary thrombosis and the incidence of secondary thrombo-embolic phenomena, whether from mural thrombi or the pelvic veins. The criteria of a bad risk are said (Russek *et al.* 1957) to be previous history of infarction, intractable pain, cardiac failure, arrhythmia, significant cardiac enlargement, diabetic acidosis, and severe shock and hypotension. Most of these cases we would admit to hospital anyway. But should "good risk" cases have anticoagulant therapy at home? I don't know whether anybody knows the answer to this. Papers have been published on the home control of anticoagulant therapy, often in rural areas (Craig, 1955). In fact, general practitioners have under their care patients discharged from hospital on anticoagulants, and attending the laboratory twice weekly for prothrombin estimations. At present, for a patient confined to bed, anticoagulant therapy at home involves at least two domiciliary visits a week from a pathologist, for at least a month. There is surely a place for a technician to help in these cases, to collect the blood, and return with it to the hospital laboratory.

The General Practitioner as a Psychiatrist

So much then for the general practitioner as a cardiologist and pathologist. What is his role as psychiatrist in relation to coronary disease? I sometimes tend to agree with the view that psychiatry is one half of the treatment of disease of which internal medicine as a whole forms the other. Psychosomatic phenomena are very real in coronary artery disease, as has been known since the earliest times, witness the stories of Nabal in the Old Testament (i, *Samuel*,

25), and the history of John Hunter. Personality studies have been made of patients with coronary disease (Garland and Phillips). They are described as having compulsive strivings to get to the top through hard work, self discipline, and mastery of others, and there is a continual urge to activity. They tend to choose occupations where they can be their own boss and achieve distinction without too much administrative responsibility. Other features are said to be heavy smoking, idiosyncrasies of diet, poor sex relationships and conflicts with authority. Mechanically, angina can be caused in two ways, either by increased action of the heart, with insufficient increase of coronary flow, or by a sustained amount of work, but with diminished coronary flow. In a series of observations (Garland and Phillips) on a group of patients with cardiac symptoms, the first condition was fulfilled when a period of stress, fear or anger, led to an acceleration of pulse rate, and elevation of blood pressure, thus increasing the work of the heart and the myocardial requirement of blood. The second situation was said to occur when feelings of rejection, desperation, or defeat caused a fall in blood pressure and cardiac output, due to a pooling of blood in the periphery. As Balint has pointed out, there is one field of work that will always be left to the general practitioner—the treatment of those psychological upsets which account for untold misery and are responsible in one way or another for about a third of our work; those patients who are not so seriously ill as to require to be referred to a hospital psychiatrist (who, indeed, would be the first to admit that at present they have very little to offer in this field). These patients also cause much of the work in hospital outpatient clinics, in the sorting out of such psychosomatic ills as migraine, peptic ulcers—and, often enough, angina. If anybody is to approach these patients from this enlightened angle, it will have to be, primarily, the family doctor; he has unique opportunities for knowing the family circumstances, and has repeated opportunities for seeing his patients on an informal basis. Here then is yet another role for general-practitioner research. This, in combination with research into nutritional and epidemiological factors, may eventually give us some insight into the prevention of coronary disease.

We are justified in giving an optimistic prognosis to our patients. If they recover and are able to get about in comfort, they may well survive for a long period. Indeed, half survive for five years, one quarter for ten years, and one in ten for fifteen years. John Hunter survived his coronary attack for twenty years, Sir James Mackenzie and Sir Thomas Lewis both survived attacks for eighteen years (Garland and Phillips). Our handling of the patient in this post-thrombotic stage, is at present limited to keeping him supplied with coronary vasodilating tablets, and reassuring him and his family

as strongly as possible. Some appear to accept this reassurance, others remain invalids for the rest of their lives, so that it becomes almost impossible to decide whether their chest pains are "organic" or "functional". These two words begin to lose their meaning as we enter once more the field of psychosomatic medicine.

Coronary disease is a subject which the general practitioner can really call his own, and one in which the cardiologist, pathologist, psychiatrist, and research worker in him have ample work for the future.

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The Postural Density Change of Urine in the Diagnosis of Early Circulatory Failure, by J. F. BURDON, M.B., B.S., D.A., *The Practitioner*, **181**, 81 (July 1958).

Dr Burdon describes a test which indicates whether there is excessive nocturnal urine secretion, and gives 21 case histories to illustrate the changes in urine secretion which may be found. In early circulatory failure there is fluid retention by day (leading eventually to frank oedema) and secretion by night, so that the normal pattern of dilute urine by day and concentrated urine by night is reversed. This reversal is detected by measuring the specific gravity of two specimens, the result being expressed by subtraction to get an index which is positive in health, but becomes negative at an early stage in circulatory failure, whatever the primary cause. It is claimed that the index reversal may be the earliest detectable change in such conditions.

The paper was awarded the second prize in the competition organized by Bengel Laboratories in 1957.