towards the solution of the problem? It is true the question was asked some years ago. The answer is that the contribution is exactly what it was expected to be when the advice of the medical profession could be put into actual practice.

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INFARCTION OF THE HEART.

BY

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THIS important condition probably occurs more often than is realized. It may be concealed under the vague term of "heart failure" or "angina pectoris"; or, in total error, some entirely different condition may be supposed to be present. Life may continue for too brief a time for accurate opinion to be formed; and the unfortunate difficulties attending *post-mortem* investigation cause the waste of vast fields of clinical material.

It is, doubtless, a common cause of sudden cardiac death; also, if uraemia be excluded, of those fugitive attacks of pericarditis which occur in elderly people, who recover, but, later on, die suddenly. Such attacks may only exhibit a friction sound for a few days. Recovery from definite cardiac infarction occurs, after an illness of very definite kind, with symptoms practically pathognomonic.

It is caused by embolism of the right or left coronary arteries, but more often by thrombosis, the gradual increase of which may have given risen to symptoms of cardiac inefficiency. Infarction of the heart is always possible in the life history of these patients, whom we watch for years, with high blood pressure, diminished cardiac reserve, arterio-sclerosis and its symptoms in the brain, lungs, stomach, or kidneys, or in the limbs (intermittent claudication). When cardiac infarction occurs in these people death either takes place at once or in a few hours, or a more or less typical illness is presented, followed by recovery, partial or complete.

I do not know whether the symptoms are ever definite enough to distinguish between occlusion of the left and of the right coronary artery. When the left artery is involved definite symptoms are exhibited. But I have seen a small group of cases which seemed to be explained by sudden occlusion of the right coronary artery, thus chiefly implicating the right ventricle; but they lived so brief a time that, in the absence of *post-mortem* examination, the diagnosis is little better than a guess. The symptoms were a sudden attack of profound collapse, with livid pallor, very feeble pulse, and heart sounds regular or intermittent; retention of consciousness; absence of pain (no angina); vomiting in one case; and, above all, the extraordinary cyanosis, showing in the purple (yet pallid) cheeks, deeply coloured ears and lips and finger-nails, and livid mottling of large areas of skin, accompanied by respiratory distress, in one case taking the form of acute attacks of Cheyne-Stokes type of breathing.

Of left coronary occlusion the classical symptoms are sudden onset, with symptoms of anginal nature, imminence of death from heart failure, yet continuance of life with fever, prolonged pain, leucocytosis, remarkable fall in blood pressure, and pericarditis; these are followed by gradual recovery, and eventually good or impaired health.

A widow, aged 63, early in 1926 noticed that she became fatigued in a way unusual to her: she was not able to walk as fast as formerly, or to ascend hills with her former ease. In June, when on holiday, she was noticed to undertake much less than formerly. She had two attacks of giddiness and faintness, with substernal pain, coldness of limbs, slight degree of breathlessness and tightness in the chest, and her face was grey.

The actual illness began on July 2nd, 1926, with an attack of substernal pain, and ashy grey colour of the face. The following day there was an uneasy substernal feeling. The apex beat was

5½ inches from the middle line. The systolic pressure was 160 mm., the diastolic pressure 80 mm.

On July 4th, at 3 a.m., pain was felt in the chest, and at 6 a.m. became intense. I found her lying very still: the respirations were shallow and painful; the chest felt tightly gripped. The pain was at the xiphisternum, passing up to the neck and shoulders, through to the back. The pulse was regular, 58 to 60. Morphine, 1/6 grain, and inhalation of amyl nitrite gave no relief, so after fully an hour I again used amyl nitrite, with alarming results. She felt faint, and choked, and the pulse failed very badly, while pain spread down to the elbows. The pain became so extreme at the point of the xiphisternum that the abdomen was examined with special care, to exclude an acute abdominal condition. Further doses of morphine procured some relief.

The next day the patient was weak and in severe pain. The pain continued for about two weeks; it was situated xiphisternally, substernally, in the neck, precordium, shoulders, and in the back at the level of the third to eighth dorsal vertebrae. There was also a very troublesome pain on swallowing, referred to the centre of the chest. The pulse was very soft, at times alarmingly feeble and irregular. In the worst phases she was gravely collapsed.

In the early morning of July 16th she awakened with severe thoracic-abdominal pain, and fainted, and was quite pulseless for a time. By July 19th the pulse was 68 to 72 and usually regular; yet on July 23rd it varied from 42 to 54 and 58. The heart sounds at the worst were very feeble and irregular.

The blood pressure fell rapidly. Noted on July 3rd to be 160/80, it was on July 5th 110-105/65, on the 7th 80/50—the lowest recorded, this being a fall in the four days of 80 in the systolic pressure, and 30 in the diastolic pressure, and of the mean blood pressure a fall from 120 to 65. Thereafter the mean blood pressure rose to 75, 90, 110, and by November 9th was 130.

On July 6th, despite the general collapse, the temperature was 101.4° and a continuous elevation persisted till about July 20th, the highest record being 102.4°. The fever of the infarct lasted about two weeks.

The leucocytosis was not investigated. It is said to be a special and invariable feature of the condition.

Pericarditis was never detected by signs, but its presence, posteriorly, in relation to the oesophagus, was suspected to be the cause of the pain on swallowing. Pericarditis is a frequent and important symptom.

On August 3rd, and after, the condition was complicated by an extensive right-sided pleurisy, followed in a week by a similar occurrence on the left side. The condition of the lungs was fairly good; fine râles were occasionally heard over the left side and base.

Treatment.—Morphine was essential in doses of 1/6, 1/8, and 1/12 grain, hypodermically, and atropine was combined in suitable proportion. Strychnine was also used, but more frequently caffeine sodio-benzoate, grains 3½ hypodermically, or half that dose, in states of collapse. Of its usefulness I have no doubt. Glucose and saline enemata were useful when feeding was difficult. No hypnotics suited well: veronal, medinal, chlorobrom, bromides, and aspirin, and combinations, were all tried, with unusually little success. Morphine was the sheet-anchor. Amyl nitrite was useless, indeed dangerous, as from the later developments and behaviour of the circulation it was likely to be. There seems, therefore, to be an essential difference between the pain of cardiac infarction and that of a usual attack of angina pectoris—that is, in the mechanism of the pain, the state of the heart muscle and its arteries, and in the response to amyl nitrite.

General Remarks.

Clinical descriptions by practitioners do not seem frequent, though many cases must be met with. The latest reference is quoted in the *Medical Review* from an article by McKeen in the *Boston Medical and Surgical Journal*. He specially refers to the symptomatology, and to the differential diagnosis from ordinary angina pectoris; and also to the necessity of excluding, at first, acute gall-bladder disease, perforated stomach, acute pancreatitis, pneumonia, pleurisy, and the crisis of tabes. I found myself, at first, again and again excluding an acute subdiaphragmatic lesion.

ENCEPHALITIS LETHARGICA ASSOCIATED WITH PARKINSONISM TREATED BY ULTRA-VIOLET RAYS.

BY

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THE short paper by Dr. Fawcitt published early this year (*BRITISH MEDICAL JOURNAL*, 1927, vol. i, p. 422) induces me to place on record the following cases of encephalitis lethargica associated with Parkinsonism which have been under my care in the Nottingham Sun-Ray Clinic.

From January, 1926, to March, 1927, forty such cases were admitted and were treated with general body radiations without any local applications to the nasopharynx.