strongly and with as much confidence, as a diuretic, as I can as a perfect anti-emetic.

I recall the fact that cocaine did act as a "heart-tonic and stimulant" in my cases of yellow fever, but failed to note it at the time, being more occupied with its action in quieting the stomach and keeping up the action of the kidneys.

In summing up the value of cocaine in the treatment of yellow fever, it may be stated to be almost a specific, in my experience doing more to cure this disease than any other drug I have ever tried, taking away or removing all nausea and vomiting, acting as a diuretic and as an excellent and sure "heart-tonic and stimulant."

NOTES OF A CASE OF CALCAREOUS DISEASE OF THE HEART AND PERICARDIUM.

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THE difficulties attending the diagnosis of the case I am about to relate, and its undoubted rarity, are sufficient grounds for the supposition that it will prove of interest to the profession.

Robert G., aged forty-three, a sailor, married, three children, was admitted into the Royal Infirmary, Newcastle-on-Tyne, for cough and shortness of breath.

According to the patient's statement his illness began fourteen weeks before his admission into hospital, with cough and copious expectoration, due to catching cold, to which for some years he had been liable. He was at sea at the time, and though suffering, was able to continue his employment for four or five weeks longer, when increasing shortness of breath and swelling of the legs compelled him to seek rest and medical advice ashore. He now observed swelling of the epigastric region, and deepening in the hue of his already florid countenance. The bowels were constipated; the appetite remained moderate, but he steadily lost flesh. From the beginning he experienced little or no pain.

Present condition.—There is decided emaciation. Legs are œdematous. The face is cyanotic, and wears an anxious expression. The right pupil is smaller than the left. The breathing is short and rapid (thirty-two in the minute). The cough is frequent, and accompanying it is a copious, colorless, frothy expectoration. He lies on his right side, and is obviously inconvenienced by the assumption of any other decubitus. The pulse is irregular and weak, eighty-four at the wrist, one hundred when counted with the stethoscope. Temperature normal. He has no pain; his sole complaint is of irritating cough and dyspœa.

Chest.—Heart impulse diffused and heaving, but most distinct in epigastrium and about two and one-half inches below the left nipple. The

heart's action is irregular and tumultuous, and there is a want of clearness and precision about the sounds. A short systolic murmur can be heard at the apex, having no special line of conduction, and another of corresponding rhythm in the tricuspid area. The aortic sounds are very obscure, but seem to be unaccompanied by murmur. The limits of cardiac dulness are masked by emphysema of the left lung on the one hand, and by an area of dulness occupying the front of the right chest on the other. This region is dull on percussion from the first rib down to the liver, and the dulness is absolute in the neighborhood of the third and fourth ribs, one and a half inches to the right of the sternum, where the chest-wall is more prominent than elsewhere. Here the intercostal spaces are obliterated by œdema, which passes down into the right hypochondrium, and the veins are full and tortuous. The left chest is resonant in front. The breath sounds are feeble and distant over the dull area to the right of the sternum, especially toward the lower part. At the apex the sounds are harsh and accompanied by rhonchi, which are obviously conducted from the left side, where rhonchi and puerile breathing prevail. Vocal fremitus and resonance are diminished on the right side. At the back both sides are fairly resonant on percussion, with the exception of an area to the right of the spinal column above the sixth rib, which is dull. In this dull region the breath sounds are tubular though distant, whilst toward the base where the note is resonant, they are very feeble and indistinct though accompanied by râle. To the left of the spine the sounds are harsh as in front. The voice fremitus and resonance are tolerably well marked on both sides, and about equal. On introducing a fine hypodermic needle into the dull area on the right side in front, some clear blood-stained fluid was withdrawn.

Abdomen.—The epigastrium and right hypochondrium are full and prominent, especially the latter where the skin is œdematous. The liver is much enlarged and can easily be felt four and a half inches below the sternum in the middle line, and four inches below the arch of the ribs in the right mammary line. The enlargement is smooth and painless, and is but little influenced by respiratory movements. A considerable quantity of free fluid in the peritoneal cavity. No increase in splenic dulness. The urine is high-colored and scanty, but is free from albumin. The temperature is practically normal.

Previous illnesses.—Has had cough from time to time since he was a youth, but he attached little importance to it. Of late years a winter cough troubled him a good deal. Never suffered from rheumatism or syphilis.

Family history.—Is good; no tubercular diseases that he is aware of.

By degrees the dyspnoea became more distressing and the cyanosis increased. On February 17th, a week after his admission, the expectoration was observed to be blood-stained, and from this time up to his death it usually contained blood, being frequently "prune-juice" in color.

On the 19th, the chest was tapped in front, and seventeen ounces of bloody serum were drawn off, which was followed by a certain degree of relief. The cyanosis deepened rapidly toward the end, and without any very significant change in the physical signs to record, he died on the 21st of February, twelve days after admission into the hospital.

Post-mortem examination, about twenty-six hours after death. Rigor mortis passing off. Face and dependent portions of the body livid. Legs œdematous. Abdomen distended; a considerable quantity of blood-stained fluid escaped on opening peritoneum. The sternum was raised with difficulty owing to dense adhesions. The anterior mediastinum was occupied by a large hard mass that at first sight appeared to be a tumor. The right lung was partially collapsed and the anterior portion of its pleural cavity contained bloody fluid. It was adherent toward the base—to the chest-wall posteriorly, and to the hard mass in

FIG. 1.

the mediastinum. The pleura was an eighth of an inch thick. The left lung was emphysematous and free from adhesions; frothy serum exuded from its cut surface.

On removing the contents of the mediastinum, which were very firmly attached behind (spine), to the right (lung), and below (diaphragm), the hard mass filling its lower two-thirds was recognized to be the heart with its pericardial sac adherent. The whole, divested of extraneous structures, weighed one pound and ten ounces.

FIG. 2.

FIG. 3.

The position occupied by the heart in the body was somewhat unusual. It lay almost horizontal, the level of the apex being very slightly

below that of the base. Its shape was peculiar. It was markedly flattened from before backward, and was distinctly wider transversely than from base to apex; it measured, for example, four and a half inches across, and only four inches from base of aorta to apex of left ventricle. The diaphragmatic surface (the true posterior surface) was perfectly flat and triangular in shape. It had been closely attached to the diaphragm and measured three inches from base to apex, with a basic line of three and a half inches. This surface was one solid plate of calcareous material, and had to be cut with a saw. Speaking generally, the outer layer of the parietal pericardium could be dissected off the heart as a membrane, leaving an inner layer firmly adherent and calcareous. In places certainly the whole of the parietal pericardium was membranous, particularly over the upper and posterior part of the right ventricle, and again in other places both the parietal and visceral divisions of the sac were membranous, *e. g.*, on the anterior surface. On removing all that could be dissected off the pericardium, the heart-walls were seen to be composed largely of calcareous matter, arranged irregularly in nodular masses. This material was most abundant at the back and toward the right side of the organ. Running across the front of the left ventricle was a thick ridge of bone-like substance. In some places this was an inch in breadth and in others half an inch. It penetrated deeply into the heart muscle, especially toward the left side, where a wedge-shaped nodule the size of a walnut (see Fig. 2) passed quite through the heart, its apex presenting prominently among the columnæ carneæ.

This ridge was firmly attached at both ends to the great bony case that enveloped the heart. The whole of the right ventricle was encased in a dense calcareous envelope, and, as before stated, had to be opened with a saw. The walls of this case varied from a quarter of an inch to an inch in thickness, and they were intimately incorporated with the heart muscle. On its surface were several cavities, the size of small filberts, that contained putty-like material. The whole of the left auricle was practically membranous, but the calcareous case encroached to a considerable extent upon the right auricle, chiefly its posterior surface, in the neighborhood of the entrance of the inferior vena cava. One nodule penetrated between the muscoli pectinati, appearing as a yellow mass on the internal surface of the auricle, covered only by a thin layer of endocardium.

The myocardium generally was friable and pale. The aortic and pulmonary valves were competent, and both vessels were healthy. The tricuspid orifice admitted five fingers, and the mitral four. The mitral curtains were somewhat thickened. The auricles were dilated, especially the right, but no material alteration in the size of the other cavities was observed. The walls of the left ventricle were considerably hypertrophied. The coronary artery was highly atheromatous.

The kidneys and spleen were good examples of the changes that arise from chronic venous stasis.

The liver was large (four pounds, ten ounces), firm to the touch, and on section presented the usual nutmeg appearance, whilst, in addition, the interstitial substance was increased (finely granular cirrhotic). Scattered sparsely throughout its substance were some pale gray nodules, size of a pin's-head, that strongly suggested tubercle, but with this

exception there were no evidences of tubercle found in the body; nor were there any traces of syphilis.

The view taken of the condition of the heart was that the disease had originated as a non-rheumatic pericarditis, perhaps of a tubercular nature, and that myocarditis followed, the deposit undergoing calcareous degeneration. The possibility of an old pyopericarditis with a large collection of pus was entertained, though the history of the case scarcely served to establish the occurrence of so severe a lesion. The fact, also, that the process of calcification had so extensively invaded the cardiac muscle made it difficult to accept the theory that the bony pericardium had arisen simply from inspissation and calcification of incarcerated pus. Notwithstanding this difficulty, my post-mortem room experience of the changes that take place in the pleura in cases of old-standing empyema that have been left alone made me hesitate to discard it. Calcareous pericardium is undoubtedly a rare lesion, and it is one that has seldom, if ever, been diagnosed during life. Nor is it easy to see how the diagnosis could be made, except, perhaps, in a more or less accidental way by the introduction of an exploratory needle.

The disease suggested by a careful consideration of the signs and symptoms of the present case was mediastinal new-growth. The age of the patient, marked cyanosis, local œdema, bulging of chest-wall, dilatation of veins, and the presence of blood-stained pleural effusion with bloody expectoration, all pointed to that condition. It is a marvellous fact that the patient was able to follow the arduous employment of a sailor before the mast without experiencing any, or only comparatively trifling, inconvenience, when it is considered that for years the bony case must have interfered with ventricular contraction.

AURAL VERTIGO ENTIRELY AND PERMANENTLY RELIEVED BY EXCISION OF THE MEMBRANA TYMPANI AND THE MALLEUS.

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AURAL vertigo may be due to disease of the external, the middle, or the internal ear. The name "Ménière's disease" was originally applied to a disease of the internal ear, characterized by sudden and intense deafness, nausea and vertigo, and to this form of aural vertigo it should still be limited. But much confusion has arisen by applying the name Ménière's disease to all forms of aural vertigo, regardless of their origin. The general term, however, should be aural vertigo, and Ménière's dis-