CASE V.—A female teacher, aged about 20, was a healthy-looking and well-nourished girl. The commencement of her illness dated from about three months before I saw her, and the first symptoms observed were pain in the pit of the stomach and in the left side. During school-hours she taught standing, and had lately experienced greatly increased fatigue and backache from it; and had further noticed that, for some weeks past, the pain in the back was brought on by stooping to put her boots on. She was in bed when I saw her, and unable to move the lower limbs; the inability seemed, however, to be partly due to dread of the effort bringing on pain. There was tenderness on deep pressure over the left half of the epigastrium and adjoining hypochondrium. A lateral curvature was present in the upper part of the lumbar region, with tenderness on pressure over it, pain being also caused by pressure on the shoulders. She was kept in bed until the legs could be moved without pain. She then had a plaster-of-Paris jacket applied, after Dr. Walker's method, and made an uninterrupted recovery; and has now for months past performed her duties as usual.

While heartily accepting most of Mr. Marsh's statements, I am inclined to place greater diagnostic value than he does on the production of pain by pressure on the shoulders. Pressure has never failed with me in eliciting pain when I suspected caries; but the pressure should not be downwards only, but also downwards and laterally, so as to explore in this way both sides of the vertebral column. The absence of pain over the spinous processes is of little value, and is frequently noted; but I have seldom failed to elicit it by pressure along the side of the spine and towards the bodies of the vertebrae. If the lumbar vertebrae be affected, pain in the "stomach" is frequently complained of, and pain can be produced by pressure through the abdomen. Pain on inspiration or coughing I have not noted; but I have known the pain, in lumbar caries, brought on by a full meal. Pain on stooping is, in my experience, an early and a valuable diagnostic point.

In the remarks on Case II, I have referred to the true significance of hyperaesthesia to the hot sponge in caries; to regard it as a necessary, or even an ordinary sign, can only mislead; for, with curvature and paraplegia present, as in Case III, there was no such heightened sensibility.

SIX CARDIAC AND VASCULAR CASES: WITH REMARKS AND ENGRAVINGS.

By EDWIN RICKARDS, M.A., M.D.,
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CASE VI. *Calcareous Pericardium*.—The specimen from which the engraving was made was taken from a patient named Martha S., who was thirty-five years of age when first admitted into the hospital, December 1875. She was not aware that she or any of her relatives had suffered from rheumatism. From her own and her mother's account (both intelligent witnesses), she was a strong child until she had a severe illness at the age of thirteen. This illness came on with pain in the chest, shortness of breath, cough, delirium, and vomiting, pain in the bowels, and swelling of the abdomen. There was no pain in any joint. She kept her bed for three weeks; and, after she had been up for a few days, her legs began to swell, the swelling lasting for a week. For two months she was unable to walk, from extreme weakness. For twenty years, dating from this illness, she performed all the ordinary duties of life without discomfort, and felt no ill effects from that illness beyond shortness of breath after severe exertion. For two years prior to her admission into the hospital, she experienced great anxiety and bodily hardships; and during this time dyspnoea, cough, coldness and lividity of the extremities, swelling of the legs, and distension of the abdomen, set in gradually. On admission into the hospital, it was found that the abdomen contained a large amount of fluid, and that the lungs were oedematous. On examining the heart, its area of dullness was somewhat increased transversely; its impulse was scarcely perceptible; its apex-beat, which was diffused and with difficulty felt, was midway between the left nipple and the sternum. The heart's action was feeble, irregular, and intermittent; its sounds were weak, but murmurless; the second sound was reduplicated. The radial pulses were very small, easily compressible, intermittent and irregular, 90 per minute. The jugular veins were distended, and pulsated, and, when emptied, rapidly filled from below. The urine was scanty and non-albuminous. She was much relieved in her general symptoms by paracentesis abdominis, the cardiac signs remaining the same. She was thereby enabled to walk about, and to leave the hospital in three weeks. During the following year and a half, she was an in-patient eight times for the repetition of the operation. At the end of that time, she died at her own home, where the *post mortem* examination was made under great difficulties.

The body was anasarca; the extremities livid. The pleural and peritoneal cavities contained a large amount of fluid. The peritoneum was everywhere thickened. The liver was enlarged and slightly cirrhotic. The kidneys and spleen were healthy. The lungs were congested. The pericardium was entirely adherent to the heart; that portion of it covering the auricles and large vessels was slightly thickened; the portion covering the ventricles was converted into a calcareous chamber, with the exception of two small spots corresponding with the apices of the two ventricles. The ventricles were abnormally small; their muscular tissue was sound. The auricles were dilated, and their walls were hypertrophied. The valves and large vessels were quite free from any morbid change.

Dr. Hill Norris was kind enough to make an accurate drawing of the heart with its calcareous pericardium. In the engraving, the fibrous pericardium has been removed from the auricles and large vessels to which it was adherent; the auricles have shrunk by being dried. A A mark the calcareous pericardium; B B the spots of the pericardium not calcareous.

REMARKS.—Hitherto, in text-books and systems of medicine, calcareous pericardium has received but a sparing notice, and that under the heading of adherent pericardium. The cases on record are few and variously denominated; some are imperfectly described, and without history, so that their value for statistics is thereby much diminished. By considering the foregoing case in conjunction with others scattered throughout medical literature, I arrive at the following conclusions.

1. Calcareous pericardium is the result of pyopericarditis, rather than, as is often held, the calcareous degeneration of the fibrous medium uniting the parietal and visceral layers of the pericardium formed during pericarditis; the pus in pyopericarditis undergoing caseation, and ultimately calcification.

2. The amount of calcification depends upon the amount of pus formed. In non-rheumatic pericarditis, the inflammation may stop short of suppuration, or the pericardial sac may contain a small or large quantity of pus. Hence, in adherent pericardium from non-rheumatic pericarditis, the pericardium may be free from calcareous matter, or may contain calcareous plates, or may be converted into a calcareous chamber. My experience in the *post mortem* room does not tell of any case of rheumatic pericarditis where the pericardium contained pus, or where the pericardial adhesions were calcareous.

3. The calcareous matter situated between the visceral and parietal layers of the pericardium is almost exclusively confined to that part of the pericardial sac surrounding the ventricles; and, while having the consistency and chemical composition of bone, wants the structure peculiar to the latter.

4. Atrophy of the ventricles is more frequently associated with calcareous pericardium than hypertrophy. The two causes which appear chiefly to determine hypertrophy in adherent pericardium are adhesion

while the heart is in a state of inflammatory softening, and valvular lesions. The pus in pyopericarditis becoming inspissated very gradually, time is thereby given for the heart to recover from any myocarditis which may have been present before adhesion takes place; and, when the pericardium becomes calcareous, the rigid casing by compression of the enclosed organ causes the heart to atrophy. Valvular disease of the heart appears to be a rare exception in calcareous pericardium, and, where present, to be very inextensive, amounting only to a nodule in one cusp of the mitral valve in Laennec's case (*op. cit.*, Case 48), and to a bead in one segment of the aortic valve, not causing insufficiency, in Ziemssen's case (*op. cit.*, *Medical Encyclopædia*); and in both cases the lesion may have been of independent origin.

5. The auricles in calcareous pericardium are dilated and hypertrophied—hypertrophied to compensate for their dilatation from overdistension by accumulation of blood in them, in consequence of impeded circulation through the ventricles.

6. That calcareous pericardium is not of rheumatic origin.

Pyopericarditis, of which comparatively few cases are on record, appears to be of non-rheumatic origin, and uncomplicated by valvular lesions—in these two respects resembling calcareous pericardium. In the *Transactions of the Pathological Society of London*, cases are recorded exhibiting the transitional stages between pyopericarditis and calcareous pericardium. Two cases are reported by Dr. Murchison (*vol. xx*). In one, collections of pus were imprisoned between the two layers of the pericardium, which was extensively adherent. In the other case, the pericardium was adherent; and between its layers in some places were accumulations of pus; in others, calcareous plates. In a case under Dr. Ringer, reported by Mr. A. P. Gould (*vol. xxviii*), between the layers of the adherent pericardium there was found a collection of chalky paste in front of the heart, and a calcareous plate at the back of the heart.

Without any apology, I have given the history of an illness which Martha S. had when she was thirteen years of age, imperfect and traditional as it was. The disease with which she was then affected I believe to have been pyopericarditis. Her symptoms then closely resembled those of a case recorded by Dr. Glover (*Lancet*, 1872), where the patient died, and the only morbid change found was pyopericarditis.

Calcareous pericardium being necessarily of long duration, it must seldom, if ever, happen to a medical practitioner to watch the commencement of it and to see the pathology. The three medical men who attended Martha S. in her first illness are all now dead.

In the diagnosis of such cases, which for the most part must be made on the principle of exclusion, the points to be looked for would seem to be, the history of a previous severe attack of pericarditis of non-rheumatic origin; the signs of obstructed circulation; and cardiac symptoms not to be accounted for by other diseases, such as valvular, pulmonary, or renal disease, which are declared by other signs. The absence of hypertrophy and dilatation of the heart, while it favours calcareous pericardium, almost negatives fibrous adherent pericardium when the latter gives rise to symptoms. In several of the cases on record, as in this case, ascites was a prominent symptom.

The treatment indicated would seem to be, warm clothing; a carefully regulated diet; the avoidance of mental worry, bodily fatigue, and exposure to cold; and, if fluid should accumulate in the serous cavities, its removal by aspiration. Under such a *régime*, it seems probable that life may be prolonged to an advanced age. Compared with the various forms of heart-disease, calcareous pericardium would seem to promise good results from treatment, inasmuch as in it the heart appears capable of maintaining the circulation if this be not unfairly taxed, and the lesion may be said not to be progressive.

ALLEGED CONSPIRACY TO DEFRAUD.—At the Sunderland Police-court an application has been made by Mr. J. L. Walton, barrister, on behalf of the North-Eastern Railway Company, for warrants to be issued for the apprehension of Dr. Abrath, surgeon in Sunderland, and Michael M'Mann, a labourer, a patient of his, who had brought an action against the North-Eastern Railway Company in respect to injuries received in a collision at Ferry Hill Station, on the company's line, on the 10th of September, 1880. A writ had been issued and proceedings were carried on up to the time of trial, the case being set down for hearing at the Newcastle summer assizes in July last. The action was not tried, however, but was settled by the company upon the representation made by M'Mann and Dr. Abrath in respect of the injuries, £725 being paid as damages and £300 as costs. In consequence of alleged discoveries, made after diligent and searching inquiries, the company applied for warrants at the police-court for conspiring to defraud the company. The application was heard *in camera*. After a long statement of the facts by the counsel, the magistrates granted the warrants.

TWO REMARKABLE CASES OF EMPYEMA, AND ONE OF LATENT PLEURAL EFFUSION;

WITH REMARKS ON THE OPERATION OF PARACENTESIS THORACIS.*

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THE treatment of cases of empyema and pleural effusion, especially as regards the advisability, or the contrary, of paracentesis, has always been one of the most debatable questions in medicine. Trousseau seems to have been the first physician of real eminence who largely adopted the treatment of tapping the chest in such cases; and the results he attained seem certainly to justify his praises of the operation.

The last occasion upon which I had the privilege of being present here, a most interesting paper was read on this subject by Dr. Speding. The observations of Dr. M'Keown, when criticising this able treatise, struck me as very pertinent; he requested to be informed, not so much as to the individual experiences of members, but as to the symptoms and conditions which would lead a physician to recommend the operation of paracentesis thoracis. I propose, in this paper—first, to detail two remarkable cases of empyema that have occurred in my practice; secondly, to glance shortly at all the cases of pleural effusion that have presented themselves before me in the Tyrone Infirmary during the past six years; and, lastly, to state, as shortly and concisely as possible, the lessons I have learned from these several cases.

The cases of empyema I intend to refer to specially, because they are unique in this particular, that they represent the largest amount of effusion that, I believe, is on record; at least, I have never heard or read of any so large compatible with life.

CASE 1. On September 25th, 1875, I was sent for to see a young man in the country who had been ailing for some time. I found him sitting up in bed, breathing with the greatest difficulty; an inquiry into his family history, revealed distinct evidence of a phthisical tendency. In appearance, he was tall, strongly put together, and muscular, but, unfortunately, subject to occasional epileptic seizures. About ten days previous to my visit, he had been exposed to a severe wetting, and on the following evening felt chilly and sick, with sharp lancinating pain under the right shoulder-blade.

A physical examination of the chest revealed the usual symptoms of enormous effusion into the right pleural cavity. Respiration was greatly impeded, the face was pale, and the pulse thready and weak. The patient, with some difficulty, was assisted from his bed to a chair; and in this position I performed the operation of paracentesis. As the case—owing principally to the hectic symptoms—was diagnosed as one of empyema, I did not think it necessary to employ the aspirator, but simply used an oval-shaped trocar and cannula suggested by my father. At first, no fluid came away. Thinking that perhaps a piece of lymph either had fallen against the mouth of the cannula or else blocked it up, the instrument was moved gently to and fro, and a feather introduced to clear it; to no purpose, however. An exhausting syringe was also tried; but it, too, proved useless. The cannula was then withdrawn and re-inserted, this time with good effect. Occasionally the fluid stopped; but moving the cannula from side to side got over this difficulty. Altogether 173 ounces of thick, yellow, foul-smelling pus came away, giving, of course, the greatest relief. The patient was then put to bed, a compress applied to the chest, and nourishment ordered *ad libitum*. For a few days, progress was satisfactory. On October 2nd, eight days after the operation, symptoms of hectic again became apparent. The external wound had closed up, and a large abscess was pointing just above the anterior superior spine of the ilium, showing that the pus from the pleura had made its way between the muscles of the back to this situation. Seeing the gravity of the patient's condition, and the impossibility of treating him in a country farmhouse, I strongly urged his removal to the County Infirmary, which was at once acceded to, and the patient accordingly removed to the hospital. The journey was very well borne. On the following morning, an opening was made into the abscess, and exit given to a large quantity of pus. From this date until October 25th, the patient remained free from pain, but evidently losing strength. The fluid in the right pleura had re-accumulated, and the hectic symptoms became much more marked. Diarrhoea set in, the temperature ran up to 103.5°, and night-sweats caused great exhaustion. Paracentesis was

* Read before the North of Ireland Branch of the British Medical Association.