interval of slightly stertorous breathing, settled down into what resembled a heavy natural sleep, which lasted for forty-six hours, and then, gradually awaking after a short period of mental confusion, entirely regained his senses. He complained of thirst and within two hours of his return to consciousness passed urine and a large dark and solid motion. His appetite and strength steadily improved; under diuretic and tonic treatment and diet he was able to leave his bed in a week and his room two days afterwards, and on reaching the open air rapidly recovered.

The points of interest in this case seem to be the number and regularity of the fits (twenty-eight in fourteen hours) and the recovery of the patient. A specimen of the urine passed on the morning of the day that the convulsions set in was, unfortunately, not available, but an examination of the first specimen passed after his recovery showed no great deviation from the normal. The odour of the patient's breath was distinctly ammoniacal, and his skin was irritable, as evidenced by his constant scratching when his hands were not held; but there was no vomiting or diarrhoea, and no involuntary discharge of fæces during the attacks. The present condition of the patient is highly satisfactory—the functions are normal, the urine is free from albumen, and he is capable of doing twelve hours' field work a day.

Welford, Rugby.

TWO CASES OF SUDDEN DEATH FROM HÆMORRHAGE INTO THE PERI- CARDIUM.

By JAMES W. FRASER, M.D., C.M. EDIN., M.R.C.S. ENG.

IN neither of these two cases was the subject seen during life, but only for the purpose of post-mortem examination under an order from the coroner. The occurrence of two examples of a somewhat rare lesion following one another so closely was a curious coincidence.

CASE 1.—In this case the witnesses at the inquest stated that the deceased had been employed at a large shipbuilding establishment for many years, and that two years previously, in consequence of an injury to the head, the scar of which was seen at the necropsy, he was given the lighter employment of watchman. He continued at this work until the day of his death, which occurred on Oct. 23rd, 1893. After leaving work at 5 P.M., and while crossing a raised bridge, one of the witnesses, a fellow workman, saw him stagger, caught him, laid him down and supported his head until he died; death occurred, according to the witness's estimate, in about seven minutes. The post-mortem examination was made at 1.45 P.M. on the 24th. An external inspection showed the deceased to have been a well-nourished man looking much older than his stated age (forty-three years); he had a few slight scars of injuries to the skin in various parts of the body. Rigor mortis was well marked and hypostatic congestion was very deep. On opening the chest the lungs did not collapse; they were slightly emphysematous at the edges and there were pleural adhesions, especially on the right side; the blood was fluid. The pericardium appeared to be distended, and on opening it, blood spouted out; over twenty ounces were caught and measured, and the whole quantity in the pericardium might be estimated at twenty-five ounces; it contained a few clots. No tear could be detected while the heart remained *in situ*, but on removal, careful examination discovered a minute opening, just admitting a probe, situated about the centre of the anterior wall of the left ventricle; this opening led into a cavity in the substance of the wall, which communicated with the ventricular cavity, and from which a long sinus led towards the apex of the heart and there also opened into the ventricle. The other cavities, the valves, and the coronary vessels were fairly healthy, but the ascending and transverse arch of the aorta contained large calcified atheromatous patches. All the other organs examined were healthy except the lungs, which showed some bronchitis as well as the emphysema.

CASE 2.—In this instance the deceased was second hand on board a steam trawler and was stated by the skipper to have been quite well until 1.30 A.M. on Oct. 25th, when the vessel was on the Dogger Bank, ninety miles from the Humber. The trawl net had been hauled on board and the deceased was getting it ready to be shot again, having assisted in getting it

in, when suddenly he called out "Oh, skipper," and fell dead, apparently instantaneously. The trawler was at once headed for Hull, and on arrival there the body was landed. The post-mortem examination was made at 4.15 P.M. on the 26th. The body was found to be very well nourished and muscular; there was deep cyanosis of the face and shoulders and hypostatic congestion of the back. Rigor mortis was not very strongly marked; some sanious fluid had run from the mouth. A scar on the penis showed the site of an old chancre. On opening the chest the lungs did not collapse, though there were few adhesions; the blood was fluid. The pericardium seemed to be distended; when opened it was found to contain at least fifteen ounces of partly clotted blood, the clots being much larger and firmer than in Case 1. Before removal there was seen to be a tear at the apex of a small swelling anterior to the root of the aorta. On removing the heart the smaller coronary vessels were found to be atheromatous, and on opening the left ventricle and aorta a small aneurysm about the size of a hazel nut was seen to open from the sinus of Valsalva above the anterior semilunar valve. The cavities of the heart and the valves were apparently healthy, and no advanced atheroma was found in the aorta, though there were one or two early patches. The other organs examined were healthy. This case is an example of aneurysmal dilatation of the most unsupported sinus of Valsalva and of its consequent early rupture.

Remarks.—On microscopic examination of the muscular substance of the ventricle in the first case it was found to be generally affected with pigmentary degeneration, which was in parts so far advanced that the fibres in transverse section resembled thin-walled tubes filled with the golden yellow granules of the pigment, and in longitudinal section were seen to be breaking up into their constituent cells with their characteristic serrated extremities. Near the rupture, however, the interspaces between the muscular fibres were filled with proliferating cells, and in many places the fibres were swollen or broken down into granular debris, and their transverse striæ were quite obliterated. In the cavity and rupture there were found some detached (pus) cells, but the most of these had of course been carried away by the rush of blood, which had further infiltrated between the muscular fibres in some places and especially between any subpericardial fat cells. On staining by Gram's method some doubtful micrococci were found among the proliferating cells. The sequence of events in this case appears to have been pigmentary degeneration of the heart of a man, older than his years, followed by a localised myocarditis, which caused a breaking down of the ventricular wall into a small abscess; the slight exertion of going up the slope of the bridge was enough to rupture the walls of the abscess cavity, weakened both by degeneration and inflammation. This, then, is an example of the rarest variety of rupture of the heart. In 100 cases quoted by Quain¹ the left ventricle was the site of rupture in 76, and in 43 of these its anterior wall, but in only 1 of them is an abscess stated to have been the cause. In both of these cases it may be noticed that the post-mortem appearances external to the pericardium were those of asphyxia. The distended lungs not collapsing on opening the chest, the liquidity of the blood, and the consequent hypostatic congestion, seem to show that death does not result so much from loss of blood into the pericardium as from the pressure that the effused blood exerts on the pulmonary vessels and perhaps on the bronchi.

Spring Bank, Hull.

A CASE OF DISEASE AFFECTING THE CERVICAL AND LUMBAR VERTEBRÆ.

By ANDREW DUNLOP, M.D. EDIN. &C.,

CONSULTING PHYSICIAN TO THE JERSEY GENERAL DISPENSARY

A WOMAN aged about fifty-eight years, who had spent most of her life in India and Burmah, came under my care in the summer of 1890 on account of sciatica on the left side. Though never very strong and though she had suffered a great deal from dyspepsia for many years, she had been seldom seriously ill. When about twenty years of age she had what was called "congestion of the lungs," later on in life she had a severe

¹ Vide Dictionary: Article, Rupture of Heart.

attack of cholera, and about 1884 she suffered from glaucoma, for which iridectomy was performed. Both her parents died from phthisis, and her brothers and sisters died in infancy. The sciatica did not seem to be much influenced by treatment, but before the beginning of the autumn the pain had considerably diminished. Soon afterwards the right side became affected, and the pain there, and in a smaller degree that on the left side, continued until she left the island for London in October or November. In London she became an inmate of a private hospital, and while there, in addition to the sciatica, she began to complain of pain in the lower part of the back, of difficulty in defecation and micturition, with irritability of the bladder, and she gradually lost flesh and strength. Towards the spring of 1891 her attendants thought that they could detect a small tumour in the left lumbar or inguinal region, and the existence of malignant disease was suspected.

Early in the summer of that year she returned to Jersey, and I saw her immediately after her arrival. She looked thin and worn and complained of pain, frequently severe, in the left hip, and of girdle pain round the body at the level of the upper border of the iliac bones. There were almost constant difficulty of defecation and frequent attacks of irritability of the bladder, with difficult and painful micturition. The left buttock was enlarged by puffy swelling, and the ischium seemed to be thickened and enlarged. No abdominal tumour could be detected. She was very feeble, and owing to weakness and pain could hardly move out of bed. About this time, or shortly afterwards, a soft tumour developed on the right side of the thorax, over the third and fourth costal cartilages. The skin over it was not altered in colour, it was hardly, if at all, painful, and to the touch it gave the impression that it contained a viscid fluid. Soon after her return she began to improve, and the swelling of the left buttock diminished; the pain there and round the abdomen decreased, she began to gain strength, and before long she was able to get up and move about a little. The bowel and bladder troubles, however, still continued. During the autumn and winter there was little change, except that a second fluctuating tumour appeared on the right side of the chest, not far from the first, and soon afterwards a third developed on the left side over the first and second ribs and costal cartilages. This last swelling rapidly attained a length of about five or six inches; it was about two inches wide, and rose up about an inch and a half above the surface. During the summer of 1892 she was still better and stronger, and was able to go out every day in a Bath chair, but she still suffered from the girdle pains, from occasional pain down one or other sciatic nerve, from pain in the lower part of the back, from difficulty of defecation, and from frequent attacks of bladder trouble. About Christmas she began to suffer from pain and stiffness at the back of the neck, with tenderness over the upper cervical vertebræ, and there were occasional feverish attacks, sometimes lasting for a day or two and sometimes only showing themselves by a rise of temperature in the evening. In the beginning of 1893 the pain and stiffness in the back of the neck continued to increase, the pain frequently extending up over the head, and there was often a creaking sensation when the head was rotated. A feeling of tingling running down the arms was also often complained of. At the beginning of May the temperature suddenly rose to about 101° F; there was severe pain in the head and the neck was very stiff, the head being turned a little to the right; there was difficulty in articulation and in moving the lips and jaw; there was slight loss of power in the left arm and hand, and the patient was delirious. In a day or two she was in a partly unconscious state, the breathing being heavy, the neck rigid, and the pulse rapid and weak; the temperature did not rise above 102°. This condition lasted for about a fortnight, and then, contrary to all expectation, the patient began to improve. The stupor lessened, the temperature fell, she began to talk indistinctly, and seemed sometimes to recognise those round her. After this amendment she improved very slowly until the middle of July. Now and then she was fairly rational, but she usually seemed to be living in a dream, in which she drove out, paid visits, and had all kinds of extraordinary and disagreeable experiences and delusions. During this time she would often fall into a state of stupor lasting for hours, and her articulation continued to be indistinct owing to want of power in moving the lips and probably the tongue. Sometimes, also, there was some difficulty in swallowing; occasionally, too, there were attacks of violent delirium. She never made any complaint of pain, but her hands were often carried up to her head as if she were suffering there, and her brow was frequently contracted. Towards the latter half of July she suddenly

began to improve greatly, and by the end of the month she had completely recovered her mental powers, and there was never any stupor. She was much emaciated, and according to the nurse she had frequent feverish attacks in the evening. Pain in the head and neck was not much complained of, though the neck was very stiff and moving the head was difficult and painful. During the month of August the pain in the head and neck returned, and the girdle pain and the pain in the back were again complained of; the bowels gave less trouble, but attacks of painful bladder trouble frequently occurred. At the beginning of September some swelling was observed in the muscles at the back of the neck, close to the skull, and the second cervical vertebra seemed to be enlarged; an elastic fluctuating tumour also formed on the back of the left hand, over the first and second metacarpal bones. At the end of the month a band of swelling was noticed at the back of the right side of the neck, passing from the spine close up to the angle of the jaw, and soon afterwards the swelling on the left side began to increase. There was less rigidity of the neck, but the creaking noise on movement was more and more a subject of complaint. For the next month there was little change, except that the lower of the two swellings on the right side of the chest disappeared, and that she began to suffer a good deal from pain in the right hip. The evening rise of temperature seemed also to be more frequent and more marked. On Oct. 31st the end came without warning. At about 8 A.M. she suddenly lost consciousness, and death occurred in a few minutes.

A post-mortem examination, in which I was kindly assisted by my friend Mr. Hind, was made twenty-five hours after death. When the head was opened the dura mater was found to be adhering to the pia mater at one or two points near the vertex. The superficial veins were much distended. Over the convexity the pia mater had a milky appearance, and on its outer surface there were many patches of firm lymph and red markings. This membrane was not adherent to the brain below. At the base of the brain the surface of the cerebellum and of the pons was covered with tough lymph, which also extended forwards towards the optic commissure. The meninges of the upper part of the cord, (the only part examined) were much reddened. On dissecting down upon the cervical vertebræ from behind a considerable quantity of pus escaped from both sides of the spinal column. The second cervical vertebra was carious, the articulating processes being much eroded, and the odontoid process was bare and rough. The atlas was also affected, though in a less degree, while the third vertebra seemed to be free from disease. The anterior part of the body of the second lumbar vertebra was eroded by caries, and the sheath of the psoas and iliacus on the right side contained about half a pint of pus. The swelling on the left side of the thorax contained sero-pus, and that on the right side pure pus. The bladder was distended, but otherwise healthy. The intestines were normal. The other parts of the body were not examined.

Remarks.—The symptoms during the earlier part of this case were obscure and gave rise to much doubt as to its nature. It was soon apparent to me, however, that there was most probably disease of the bones of the lower part of the spinal column. This seemed to be indicated by the double sciatica, the girdle pain, and the bowel and bladder troubles. This idea was naturally confirmed by the occurrence of disease in the cervical vertebræ, but what the precise nature of the disease could be I was at a loss to imagine, and I must say that the results of the post-mortem examination did not clear up all my difficulties. It appears to be pretty evident that the affection of the vertebræ was only part of a constitutional disease, showing itself also in the swellings on the chest and on the back of the left hand, and which had caused the enlargement of the left buttock and the temporary thickening of the ischium. The great and slowly progressive emaciation seemed also to point in the same direction. I remember once before seeing similar swellings on the chest of a middle-aged patient, a man who was suffering from phthisis and strumous disease of the testicle. I am at present disposed to regard the case as having been one of strumous disease, though the patient was in late middle life. The recovery from the meningitis—the inflammation which had spread up to the base of the brain and over the convexity from the diseased cervical vertebræ—was remarkable and unexpected. I now regret that a more thorough examination of the thoracic and abdominal organs was not made, but we had only a limited amount of time at our disposal.

St. Helier's, Jersey