have to treat tropical diseases are agreed that only large doses of quinine are of use in certain classes of malarial fevers. I believe that the discredit of the drug in such cases has been due to insufficient observation, and that in many of the cases of fever in which miscarriage has followed its administration this result has been brought about by allowing the fever to run its course unchecked for too long a period before the quinine was given. In other cases there may have been some coincident liver or digestive disorder which has been exaggerated by the quinine, and so reflex irritation has extended to the uterus; or there may be an idiosyncrasy in the case of quinine as well as of other drugs. In all the text-books on midwifery quinine is recommended as an æbolic, and in works on therapeutics it is considered to be a direct emmenagogue; but I am inclined to think that it has not much initial oxytocic effect on the uterus itself, and that its influence during labour is due to a stimulation of the flagging nervous powers, while its emmenagogue effects are probably due to its action on the vascular apparatus through the nervous system also. The subject is so important and interesting that accurately observed cases and undoubted instances are sure to be widely useful, and I therefore submit the following case.

A young woman aged twenty years was admitted into hospital for fever, from which she had been suffering for a month. She was in her eighth month of pregnancy and was a primipara. Her illness had commenced one month previously with rigors, followed by fever and severe headache. She had never suffered from fever of a similar kind before. There were no unusual symptoms connected with the pregnancy—no vomiting or salivation &c. Her habits were temperate. She was fairly well nourished; the mucous membranes were anæmic; the tongue was pale and flabby, and coated with a creamy fur; the conjunctivæ were suffused and pigmented yellow; and the pulse was full and frequent. The bowels were at first constipated, but afterwards became loose, giving rise to three or four somewhat watery motions daily. She felt weak and exhausted. The feet and ankles were œdematous, the œdema extending upwards to about the middle of the tibia on each side, and it had only very recently appeared. The respiratory system was normal, and so was the circulatory system, with the exception of a pulmonary systolic hæmic bruit over the left pulmonary area. The liver and spleen were not enlarged. The urine was acid in reaction, of sp. gr. 1006, and contained no albumen. The case was diagnosed as malarious intermittent fever complicating pregnancy. On Sept. 26th the patient was treated with simple diaphoretics during the height of the fever, and twenty grains of sulphate of quinine were ordered when the temperature was 101° F. On the 27th the periodic rise of temperature was somewhat less and was deferred to a later hour in the day. There were no uterine pains or discomfort, and the patient said that she felt much better than she had done for the previous month. The treatment was repeated. On the 28th there was no rise of temperature. She was given a mixture of twenty minims of liquor sodæ chlorinatæ, five minims of liquor arsenicalis, and one ounce of peppermint water, to be taken three times a day. On Oct. 1st the patient was discharged at her own earnest request, apparently well except for the anæmia, for which she was treated.

The case shows that a large dose of quinine can be given in pregnancy with signal advantage in malarious fever, and it should be noted that the drug was not fenced with opium or other sedative. The fever yielded at once to the quinine, and this is often the case when intermittent fevers have continued without treatment for a long time, the malarial poison being apparently attenuated.

Bombay.

CASE OF URÆMIA FOLLOWING SCARLET FEVER; RECOVERY.

By T. J. TONKIN, L.R.C.P. & L.R.C.S. EDIN., L.M.,
L.F.P.S. GLASG.

THE patient, a strong, well-built lad of sixteen years of age, came under my observation on May 3rd, 1893, and was found to be suffering from scarlet fever. The rash was well developed; the temperature—taken in the mouth—did not exceed at any time 103·5° F., and under regular treatment the disease ran an ordinary course, the eruption fading on the 7th,

and his temperature reaching the normal on the same day. Desquamation was complete before the end of the month. Now another and a more serious phase of the disorder developed. Soon after the commencement of desquamation the kidney complications presented themselves in more than usual force. Their onset was marked by suppression of the urine—total for two days, but then it gradually yielded—accompanied by a hard pulse and a slight elevation of temperature; and when at last the secretion flowed more freely it was found on analysis and microscopical examination to contain blood, casts, and a large amount of albumen. However, under the exhibition of acetate of potassium and digitalis, preceded by a brisk purge, together with hot applications to the loins, the condition of the kidneys and their secretion so much improved, and with them the patient's health, that by June 2nd he was allowed to take open-air exercise, and the perchloride of iron was prescribed. For the space of eight days at this juncture he was not under observation. On June 10th, however, at 4 P.M., medical aid was again requested, and on arrival it was found that the boy had just recovered from a convulsion which had been preceded during the morning by headache, unsteadiness of gait, and some intolerance of light. He was sensible and inclined to make a jest of his condition; subsequently, however, he denied all remembrance of what had passed. It being suspected that this fit was the first of a series, the boy was at once removed to bed, and on it being ascertained that the amount of urine passed during the previous twenty-four hours had again been scanty, hot mustard-and-linseed poultices were applied to the loins and 60 gr. of jaborandi were given. But before the latter had time to act the right hand and facial muscles of the patient began to twitch, and almost at once he passed into a second complete convulsive condition, the interval between the two fits being thirty minutes.

The description of this attack will serve for all the others. As far as could be seen, all the muscular groups were involved in the epileptiform movements, the violence of which was so great as to necessitate restraint; the patient foamed at the mouth, the head and neck became congested, and the tongue was bitten. Unfortunately, neither the exact length of time they lasted nor the variations in temperature during the attacks were noted. The convulsion over, the boy sank into a comatose condition, his face being pale and the eyes half closed; the pupils were dilated and reacted to light; the pulse was at first full, but afterwards hardened; the breathing was not markedly stertorous; the temperature was slightly subnormal, and the extremities were cold. This state of things lasted for about twenty-five minutes, during which time hot-water bottles were applied to the feet, and then, after a short period of restless and purposeless movement, he passed into a third convulsion. For the next two hours the fits continued to succeed one another (one every thirty minutes), some differing slightly in degree from others, but maintaining, as a rule, a uniform character—severe, general, and protracted. The only difference observed was that the intervals during which the patient was comatose in the earlier stages of the series were now occupied by delirium. No amelioration being observed in his condition, it was decided, after the cessation of the seventh fit, to make a further attempt at treatment. His loins and lower limbs were enveloped in a sheet wrung out of boiling water and applied as hot as was judged possible short of scalding, and, in spite of violent opposition on his part, with the help of two men, a wooden gag, and a padded bottle, he was enabled to swallow a draught containing sixty grains of hydrate of chloral and forty grains of bromide of ammonium. The hot pack had the beneficial effect of producing free diuresis, but the convulsions still continued with unabated violence and maintained their regularity with regard to time—one every thirty minutes. In the interval that followed the fifteenth fit the bromide and chloral draught was repeated under the same difficult conditions as previously, but without any immediate effect, and on the patient completing his twentieth convulsion venesection was decided upon and immediately performed, fifteen ounces of blood being abstracted from the right median basilic vein. The blood was dark-coloured and flowed freely. The patient had two more fits before any improvement was noted, and then the attacks began to decrease in severity, and after he had had five more (making a total of twenty-eight) they ceased. The decrease in violence was by no means so marked as might have been expected, for the last fit, which, it may be remarked, was preceded by an interval of only twenty minutes, was by no means a slight one. The termination of the series might be characterised as abrupt. The patient now, after a brief

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.

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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.