responsible surgeon. As a general rule, it may be stated that, whatever may be the reasons for concluding that a bullet or any other foreign body has lodged in or near a gun-shot wound, if, after search by the finger in cases where a digital examination is practicable; after external manipulation and observations made in varied postures of the part of the body concerned; after attention has been given to indications derived from the patient's sensations; effects of pressure upon, or injury to, nerves; and, lastly, after a moderate but careful exploration by one or other of the exploring instruments just described, if, after these steps have been taken, the site of the lodgment be still not ascertained, more especially if the patient be suffering pain, or is in an exhausted condition, the exploration should be at once discontinued. The continuance of the search will not merely add to the weariness and distress of the patient, but, if the several proceedings above-named have been properly carried into execution, it is not likely to be attended with a successful issue. The foreign body will probably have passed beyond or out of the field of exploration, or have become deeply impacted in bone, or entangled among tissues, where it could only be discovered by an unjustifiable amount of meddlesome and injurious disturbance of the structures implicated. We must rest in hope that, either during the process of suppuration, or under the influence of muscular actions, or by gradual approach toward the surface, the escape of the foreign body, whatever its nature, whether hard or soft, smooth or rough, organic or inorganic, may be eventually effected without such risks; or, if it be of a favourable kind and form, such as a leaden bullet is when its normal shape is retained, and if it be not in contact with a nerve, bone, or other important organ, that the wound may heal favourably, notwithstanding its presence, the foreign body becoming encysted, and remaining lodged without causing either pain or mischief for many years afterwards.

HYDRATE OF CHLORAL IN PUERPERAL CONVULSIONS.*

By J. G. SWAYNE, M.D.,

Physician-Accoucheur to the Bristol General Hospital.

CASE I.—On October 26th, 1870, Mr. Taylor requested me to see Mrs. H., living in Kingsdown, Bristol. She was a primipara, and from his account, had had albuminuria with oedematous extremities for about three weeks. For this he had purged her and given diuretics up to the time when symptoms of labour set in, accompanied with convulsions. I saw her first at 7.30 P.M. She had then had two convulsive attacks—the first at six, and the second at seven o'clock. Mr. Taylor had given her calomel and jalap, and applied a sinapism to the back of the neck. The breathing was slightly stertorous, but she was not wholly unconscious. Before the fits came on, she said that she saw "beautiful green things floating in the air." On examining, I found the os uteri dilated to the size of a crown-piece, and the head presenting. The membranes were unruptured, and there were scarcely any labour-pains. We bled her to fourteen ounces. Immediately after this, at eight o'clock, another fit came on. When it was over, we injected into the rectum thirty grains of chloral dissolved in three ounces of water. The pulse, which had previously been about 70, was now about 120. She was at first rather restless, but soon became more conscious, said her headache was better, and fell into a tranquil sleep. We then left her, with instructions that if any fresh symptom came on, Mr. Taylor was to be summoned immediately. Next day, I received a note from Mr. Taylor, in which he stated that she remained in the tranquil state in which we left her for nearly an hour, when labour-pains set in with regularity, and went on until 3 A.M., when he was sent for; and, on examining, found the head in the pelvic cavity, and a fairly good pain; but with the second pain after his arrival, she had a convulsion as severe as that we witnessed. He immediately applied the forceps and delivered her as quickly as possible, when he found, to his surprise, that there was a second infant. However, a foot presented, which he soon brought down, and promptly delivered the child. There was a considerable hæmorrhage at the removal of the placenta, but she was not very much exhausted, and he left her feeling comfortable. Mr. Taylor added that, "she is to-night cheerful, with a pulse of 100. So far, we may congratulate ourselves on the termination of a somewhat unpromising case. Your chloral had a most decidedly soothing effect, and I fancy its topical irritant quality may have had a reflex influence on the pelvic nerves." I may add that the patient went on favourably, and ultimately made a good recovery.

CASE II.—On March 26th, 1871, I saw, in consultation with Mr. Wine, Mrs. R., aged 25, living in Bread Street, St. Philip's, Bristol.

She had had two children previously with easy labours. About five days before the present labour, she was frightened very much (because one of her children was nearly run over), and felt no foetal movements afterwards. Mr. Wine saw her first at 3 A.M. on March 25th. The os was then slightly dilated, and the pains feeble. She then had a convulsion for the first time, and afterwards dozed off into a snoring sleep. Mr. Wine went home for three grains of calomel, which he gave her. He came again at 10 A.M., and found that she had had six fits since he last saw her. On examining the bed, he found that she had given birth to a dead child, which was quite rigid. About 11 P.M. on March 25th, she had a very bad epileptiform convulsion. After that (about twelve o'clock) she had some fits of a more hysterical character, accompanied with screaming. When I saw her at 1 P.M. on March 26th, she was lying in an almost insensible state. The pupils were scarcely affected by light; but the breathing was not stertorous. Pulse 86. We drew off about twelve ounces of dark coffee-coloured urine. This was highly albuminous, and became almost solid when heated. We gave her thirty grains of chloral by injection. At 10 P.M. I saw her again, when Mr. Wine told me that she had another fit about half an hour after the chloral was administered, and then another very long one about half an hour after that, and then none for two hours until 6 P.M., after which she had seven rather violent ones. Although her pulse was rather weak, we bled her at 10.30 P.M. to twelve ounces. She had a fit about twenty minutes before the bleeding, and another about an hour afterwards. There was then a complete cessation of them for three hours until a quarter to 3 A.M. on March 27th. From that time up to 8 A.M., the fits returned, and she had as many as twelve. I saw her at 11.30 A.M. on March 27th. She had then been quiet, and had slept for more than three hours without any fits. The pulse was 136. The urine now showed no trace of albumen. The pupils were slightly affected by light, and she was able to take a little milk and brandy, though scarcely sensible. We ordered her thirty grains of chloral, to be repeated if necessary in six hours. She took the first dose at 2 P.M., and (by a mistake of the woman in attendance) the second dose at 4 P.M., and thus one drachm of chloral was administered in two hours. I saw her at 10.30 P.M. There had been no return of the fits, but she was lying in a very prostrate condition, with a pulse of 144, and respirations 36 in the minute. I was summoned early in the morning of the next day (March 28th), because Mr. Wine, from certain symptoms, apprehended an attack of abdominal inflammation. The abdomen was tympanitic and somewhat tender to the touch. There had been no more fits, but she was lying in a very prostrate condition, and was scarcely sensible. Pulse 125; pupils slightly affected by light. As she had not yet had much stimulus, we ordered her a dessert spoonful of brandy every two hours. She was able to take strong beef-tea and milk very well. On March 29th, she was much better, able to answer questions, and becoming conscious. Pulse 108; appetite good. I did not see her after this, but Mr. Wine reported to me that she made a good recovery, with the exception of considerable headache, which lasted about a week.

REMARKS.—I have brought forward these two cases of convulsions rather with the view to record my own experience, as far as it goes, with respect to the use of a comparatively new medicinal agent in this formidable disease, than because they furnish any very conclusive proof of the value of the remedy. I have the highest opinion of the efficacy of bleeding in puerperal convulsions, and have shown from time to time that it has a greater power than any other remedy in removing the albuminuria which is probably at the root of this affection. I did not, therefore, in either of the two cases just mentioned, feel justified in relying solely on hydrate of chloral and omitting to bleed; and, on this account, the cases are not so conclusive as to the value of chloral as one could wish. In the first case, however, the chloral, when given after bleeding, seemed to have a very tranquillising effect, and the result, perhaps of both, was that there were no more fits for about eight hours, when they came on again with the more severe expulsive pains of the second stage, and were at once relieved by delivery. The great distension of the uterus from the presence of twins had probably some share in causing the convulsions. In the second case, the convulsions appeared to be chiefly due to the very unnatural condition of the urine; for they were not relieved, but rather became worse after delivery. Chloral was then given to the amount of thirty grains, and there was a cessation of the fits for about two hours. The woman was bled after the fits returned, and they then ceased again for three hours, though not immediately after the bleeding. After that the fits returned, nearly one in every hour, and then appeared to cease spontaneously as soon as the urine was free from albumen. Soon afterwards, she took, partly by mistake, a double dose of chloral (about one drachm in two hours), and there was no return of convulsions; but this powerful dose of chloral appeared to add very much to the previous prostration.

* Read before the Bath and Bristol Branch, October 1871.

From this, however, she soon recovered, and ultimately did well. From what I have seen of the action of chloral in puerperal convulsions, I am disposed to think that its action is similar to that of chloroform, but that it is more steady and persistent in its effects, and that it is much more manageable, because we can regulate the dose with much greater nicety. Although it ought not to supersede bleeding, it is yet a most valuable adjunct to it, and is, in fact, the best antispasmodic we can employ in such cases. I believe that the dose required to produce a decided effect must be large—at least forty grains at a time—and this may be repeated in three or four hours. I lately saw a case of puerperal mania, accompanied with much excitement and entire loss of sleep. This restlessness was quite unrelieved by full doses of opium, and was very little affected by thirty grains of chloral. We then gave forty grains of chloral, and repeated it in two hours, and the result was that the woman had six hours of tranquil sleep, after which she immediately began to improve until she made a good recovery.

ABSTRACT OF A CLINICAL LECTURE ON A CASE OF PURPURA, FOLLOWED BY CONVULSIONS, IN A YOUNG CHILD.

Delivered at King's College Hospital, November 30th, 1871.

By W. O. PRIESTLEY, M.D.,

Professor of Obstetric Medicine in King's College; Obstetric Physician to King's College Hospital.

GENTLEMEN,—We have had some interesting cases in the Children's Ward since my last lecture. One little child has died after an illness with a somewhat curious and instructive history. She was thirteen months old, and suffered from purpura. This affection, which commonly occurs in cachectic children, very closely resembles the blood-disease called scurvy, from which sailors suffer when, during long voyages, they are deprived of fresh vegetables. There are large or more minute deep purple spots in the skin scattered over the surface of the body. The little child, the notes of whose case have been taken by Mr. Eardley Wilmot, was named Maud Isabel Gingall, and she had been in the Pantia Ralli Ward suffering from the same condition in the latter part of August, and, after a course of chalybeates, was discharged cured. On September 21st she was again brought to the hospital covered with fresh purpuric spots, and with extensive ecchymosis over the left eyelid and cheek, and also of the vulva. These latter injuries were supposed to have resulted from a fall from a perambulator. About the joints particularly were large patches and many little dark spots, as if they had been pricked with a needle, and thus blood extravasated. She was placed on generous diet, with wine, and to have the following draught three times a day.

R. Ferri sulph. gr. iij; acid. sulph. dil. ℥ ii; syr. simp. ℥ x; inf. calumb. 3j.

It is necessary to distinguish the spots of purpura from the ecchymosis produced by a blow or a fall. When a child in ordinary health has received a blow, the place may blacken in consequence; but, ere long, gradual changes of colour take place in the spot; the discoloration becomes ultimately purple, green, and yellow, and gradually disappears, the part perfectly recovering its flesh-tint in some days. In this child the deep colour did not pass away in the ordinary fashion, but remained persistent—thus proving that, if the child had been bruised at all, there was some faulty condition of health which interfered with the recovery of the ecchymosed parts. As the large doses of sulphate of iron did not seem to be producing any good results, on the 9th October a drachm of lemon-juice was ordered to be given three times daily. Lemon-juice is given to sailors suffering from scurvy, and proves to them of the greatest service, answering as well as green vegetables. Dr. Budd, it is true, has pointed out that there are some important differences between purpura as we see it on land and sea-scurvy, and that the former is less benefited by lemon-juice; but it was thought desirable to try the effect of lemon-juice in this case by way of experiment. On October 14th there was, however, no improvement; a fresh crop of spots had appeared on the legs and abdomen; and the child was ordered 5 minims of tincture of perchloride of iron, 2 minims of dilute hydrochloric acid, with syrup and water, three times daily. In the evening of that day she was seized suddenly with very violent unilateral convulsions; the left side, leg, arm, and face, being thrown into violent spasmodic action. The left pupil remained normal, while the right contracted. She remained in an unconscious state for fourteen hours, taking no food or medicine; the temperature was 103 deg. Fahr., and the pulse 150. One ounce of brandy was ordered daily, and a purge to clear out the bowels. For the next four days the child remained in a semi-con-

scious state, taking very little food and sleeping little. The eyes were fixed and turned inwards, and the pupils were now dilated and immoveable. On the 19th October she had another fit, similar to the preceding, but less violent. On October 23rd, diarrhoea, with bloody stools, set in, after which she gradually regained consciousness, and seemed much better, though still very weak, and her appetite was defective. It was then observed that no paralysis remained in the side affected. She continued much the same to November 11th, but was obviously losing flesh and growing weaker. Her weight was only 13½ lbs. She was ordered one drachm of cod-liver oil three times daily. On the above date a third fit came on, and the diarrhoea increased. The temperature was 102 deg. Fahr. From the effects of this fit the child never rallied. As a further complication, bronchitis set; the chest became full of moist râles and coarse crepitation; but there was no dulness present. Some new purpuric spots appeared on the legs. She was ordered quinine, and the brandy was doubled. On the 16th November she was evidently much weaker, and seemed to be sinking. Her weight now was only 12½ lbs. The pulse was almost imperceptible, and the lungs were choked with mucus, the child having no power to cough. The breath was very offensive, and there was occasional vomiting, although she took very little food. The brandy was increased to three ounces. She died on the 19th October, at 12.45 P.M.

Now, gentlemen, some may naturally ask, What relation has the purpura in this case to the occurrence of the convulsions at the later period? The investigation of this point becomes an interesting pathological study. I may state at once that I believe this child had the convulsions as the result of cerebral hæmorrhage. This is not altogether infrequent in young children; and yet it is very rarely followed by paralysis, as in the adult. When an adult is stricken with apoplexy, the immediate effect is a convulsive seizure, followed by permanent and incurable paralysis; but the hæmorrhage in the adult is commonly into the substance of the brain rather than into the membranes, and, as a consequence, destruction of nervous substance is the greater. In young children, on the contrary, although we get cerebral hæmorrhage as in the adult, yet the bleeding much more frequently takes place into the arachnoid cavity than into the brain-substance.

Sunstroke is a common cause of cerebral hæmorrhage in young and healthy children. When a child is much exposed to the sun in this country, and more especially in warm climates, it is sometimes seized with giddiness and convulsions, and probably dies. It has been found that in these cases there has been a large amount of congestion in the blood-vessels of the brain and its membranes, leading to extravasation of blood. But we also find cerebral hæmorrhage occurring in children of very feeble condition, imperfectly nourished, and cachectic. There can be very little doubt that, in the case of the little child whose history I have read to you, what occurred in the capillaries of the skin took place to a greater degree in the interior of the cranium. Blood was poured out also on the surface of the mucous membrane of the intestine, and caused bloody stools. When the convulsions took place, small vessels were probably ruptured on the surface of the brain, and extravasation took place into the cavity of the arachnoid. More than one rally took place, and the child might possibly have recovered but for the fresh complications which sprang up. When chest-symptoms were developed, the child could not cough up the mucus, and the bronchial tubes became so choked that she rapidly sank. It is much to be regretted that the friends would not permit a *post mortem* examination, else we might have been able to confirm the diagnosis of cerebral hæmorrhage made during life.

I may here say a few words to you in reference to the diagnosis of cerebral hæmorrhage, and warn you that you must not jump to the conclusion that cerebral hæmorrhage has occurred in all cases where there are convulsions. Convulsions come on from teething and other reflex sources of irritation. When there is no cerebral hæmorrhage and no true organic disease of the brain, and in cases of strumous meningitis or inflammation of the membranes of the brain—an affection which in some part of its course is pretty sure to be attended by convulsions—we have the antecedent history to guide us. In those instances where cerebral hæmorrhage takes place from exposure to the sun, we have the fact of the exposure and the suddenness of the attack almost diagnostic. Then, absence of teething, and of the history of acute hydrocephalus, is also valuable as further evidence. In strumous meningitis there is, generally, preliminary and persistent vomiting: the bowels are either confined or very much relaxed for some time previously to the attack; the child has headache, grows fretful and impatient; the fontanelle, if open, is prominent and throbbing, and the vessels of the conjunctivæ and scalp are probably notably congested. There is in most instances, indeed, though not in all, a gradual development of the symptoms, convulsions being among the latter phenomena. In the case before us there were no such symptoms; but there were indications of previous