see tying together convolutions, and diminishing here and there the calibre of the bowel to a considerable and sometimes fatal extent. Happy was it that an operation with so distrustful a beginning should have so successful and so satisfactory an ending.

CASE OF FRACTURE OF THE SPINE: DEATH ON FIFTEENTH DAY.

By PAUL BELCHER, Esq., Burton-on-Trent.

ON September 4th, I was sent for in a hurry to see W. W., who had fallen from a cart, and was said to be dying. A powerful, muscular man was lying upon a couch. His skin was cold and clammy; his heart's action very irregular and weak. He was very pale. He was intoxicated, and talked in the "slipshod" speech of the drunken. He was quite sensible, and complained of intense pain from the occiput down between the shoulders to about the fourth dorsal vertebra. There was swelling to about the same extent, and it was impossible to trace the spine clearly. Upon carefully raising him to undress him, he screamed out, and begged us to support his chin; for, if that dropped, he could not breathe. He had had an involuntary action of the bowels. There was priapism. There was a slight and unimportant cut and bruise at the vertex, over the left parietal bone. The legs were completely paralysed as to motion; nor could reflex action be excited by tickling the soles or any such means. The abdomen moved to a small extent during respiration, but it seemed a *passive* movement; the abdominal walls were distended by the down-pressed viscera, and, when this tension was taken off, they merely collapsed again. The lower ribs, corresponding to the insertion of the diaphragm, moved somewhat as in asthmatic breathing. Above this point, the chest-walls were completely motionless. The arms retained the power of motion freely; but the fingers were paralysed and flexed, and the movements of the wrist were extremely weak. The head and neck moved freely when supported by the pillow; but he said he could not *lift* the head. Sensation in the trunk and upper and lower extremities was greatly and evenly reduced, though not quite lost. He could just feel a sharp pinch, but could not distinguish *two* points of the compasses, however forcibly applied, and however wide apart.

He was a strong man, aged 37, a sawyer; he was married, and had a family.

It appeared from the story of the man who was with him in the cart (and who said he was sober, though they had both drunk freely of ale), that W. W. was preparing to get out of the cart, and had a child in his arms. He stood for a few seconds on the front board of the cart, and suddenly fell forwards, heels over head, and struck the ground first with the vertex. He was stunned and quite insensible, lying on his back. His friend got assistance, and lifted him "like a corpse" into the cart. He did not regain consciousness until he reached home—a distance of about a mile. The cart was standing still at the time of the accident. The child was not hurt.

He was carefully placed in bed, supported by pillows and sandbags, and ordered perfect rest on his back. A mixture of forty grains of carbonate of ammonia, a drachm and a half of chloric ether, and camphor mixture, was prescribed; and he was ordered to take a sixth part every two hours.

Sept. 5th, 9 A.M. The symptoms of collapse and drunkenness were gone. Pulse 70, weak, jerking, regular. The heart's action was weak, the impulse abrupt. Respiration appeared to be carried on easily; but there was no improvement in the muscular power, nor in sensation. He had passed no urine. Upon passing the hand firmly up and down the spine, a crepitus was felt, rather diffused, over the first and second dorsal vertebræ.

4 P.M. He had had a severe struggle for breath, caused by a little accumulation of mucus. The heart's action was irregular; the tongue furred and dry. He complained of intense aching in both arms, and of numbness and tingling all over. He was ordered to take a grain of calomel and a quarter of a grain of opium every six hours; and to take a dose of saline mixture every four hours. About a pint and a half of strong high coloured acid urine was drawn off by catheter.

Sept. 6th. He was as yesterday. The bowels had not acted. Catheterism was employed twice. The urine was very strong, acid. He was ordered to omit the calomel and opium, and to take a purgative mixture. He had had no sleep. There was flatulence.

Sept. 7th. Pulse 70; respiration easy. He had had a few hours sleep. Fæces came freely from the bowels this morning. There was great flatulent distension. The urine dribbled slightly; it was very faintly acid. Catheterism was performed daily every eight or ten hours. He was ordered to take nitric acid and bark mixture. Priapism continued.

Sept. 8th. He slept a little, and felt better. There was no improvement in motion nor in sensation. The urine was acid, very bloody, and strong. The bladder was washed out with tepid water. The priapism disappeared.

Sept. 12th. Sensation in the legs was about the same. Over the chest he could distinguish two points three inches apart. There was no motion from the bowels, except an occasional button, since the 7th. He was ordered to take an ounce of castor oil.

Sept. 13th. Abundant excretion from the bowels took place last night. He slept well. The pulse was very jerking and irregular. He had occasional fits of difficult breathing. He was losing flesh rapidly, though his appetite was good, and he was allowed good meat diet with arrowroot. He was ordered to take castor oil every morning.

Sept 14th. There was great flatulence. The urine was alkaline and bloody. The bladder was washed out with acidulated tepid water.

Sept. 15th. He said he felt better; but there was no real improvement.

Sept. 16th. He had had a very comfortable night. The bowels acted freely. He was very tympanitic. Pulse very weak and thready.

Evening. I was sent for in a hurry, and found W. W. bathed in a cold sweat, struggling for breath, and in imminent danger of suffocation. Moist *râles* were heard in the throat, and here and there over both lungs. He was ordered to take a glass of hot brandy and water immediately, to have sinapism applied to the chest, and to take a tablespoonful of brandy in water every hour.

Sept. 17th. He had had a most distressing night; he had "hawked up" a little mucus. Respiration was rather easier. Moist *râles* were more general over the chest. He raved a good deal at times, but his intellect was quite clear when his attention was arrested. He was ordered to continue the brandy. At midday, the respiration and pulse were worse. He was ordered to take, every four hours, a draught containing ten minims of ipecacuanha wine, fifteen minims of chloric ether, and fifteen minims of tincture of squills, with water.

Sept. 18th. He had had a wretched night; his respiration was easier than on the previous day; pulse exceedingly irregular and weak. There was still a good deal of rattling in the chest; and he was occasionally troubled with most distressing efforts to cough, which were quite abortive.

Evening. He was worse in every respect. The pulse was so jerking and irregular, that it was impossible to count it.

Sept. 19th. He was evidently sinking. He died easily, after several exhausting paroxysms of attempted cough, at 4 P.M.

EXAMINATION OF THE SPINE, twenty hours after death. The vertebral column was exposed from the third cervical to the fifth dorsal vertebra. There was considerable ecchymosis and staining of the muscles and tendinous structures in the cervico-dorsal region. The spinous process of the first dorsal vertebra was splintered, and a small portion detached. The ligaments were ruptured. The articular processes of the first and second dorsal vertebræ were fractured, and their capsular ligaments torn. The arches of these vertebræ were separated to some extent. The ligamenta subflava, torn and ragged, were adherent to the superior vertebra; and the spinal canal was opened from behind. There was no dislocation nor fracture of the bodies of the vertebræ. There was a small fibrinous clot in the intravertebral canal—probably the remains of extravasation. The theca was torn almost completely across, as to its posterior surface, a very small portion remaining entire. It was collapsed, and at first sight entirely empty; but, upon carefully slitting up the theca, it was seen to contain a thin layer of a whity-brown matter, of the consistence of thick cream. This diffluent state of the cord was continued upwards from the rent about a quarter of an inch, and downwards about an inch; the rent being about opposite the broken articular processes. Above and below this space, the cord appeared of healthy consistence, but somewhat red and hyperæmic. The theca itself, above and below the rent, was somewhat vascular, but otherwise appeared healthy.

No further examination of the body was permitted.

REMARKS. In many respects this case may be taken as a type of its class. A few things strike us as very remarkable: for instance, the comparatively slight nature of the accident which caused such grave mischief; the great injury to the cord, as compared with the injury of the bones; and the persistence of some degree of sensation, in spite of the great disorganisation of the spinal marrow. With regard to the second of these points, no doubt the cord was more extensively bruised by the careless handling of his companions after the accident, and by the relaxed state of the muscles of the neck consequent upon his having had too much drink. His respiration, as a rule, till the last thirty-six hours of his life, was easy, though carried on entirely by the diaphragm and the serrati magni antici.

I think this case is, so far as it goes, an argument against trephining. The crepitus and the easy localisation of the lesion, as well as the maintenance of some degree of sensation, were all points favourable for this operation. Had I trephined in this case, I should only have anticipated the information which I derived from *post mortem* inspection. There can be no doubt that the main lesion of the cord took place at the time of the accident, and not as the result of any causes removable by operation.

NOXIOUS VAPOURS. Dr. Playfair divides noxious vapours into three classes. The first includes hydrochloric acid gas from alkali works, nitrous acid from vitriol manufactories, and sulphuretted hydrogen from alum works. All these, he says, are injurious, and their escape could be easily prevented. The next class includes sulphurous acid from copper and lead smelting. This was injurious, but at present no efficient means of condensing it was known. The third class was the organic effluvia from knackers' yards and prussiate works. These also, no doubt, are injurious to health, but no perfectly effectual means of preventing their escape has been devised. There are other vapours which are offensive to the senses, but may not be injurious, such as the stenches from bone and soap-boiling, and from starch-making, and creasote-distilling. But the alkali-works constitute the monster nuisance, and that could well be made the subject of legislative interference. (*Chemical News.*)

Transactions of Branches.

SOUTH-EASTERN BRANCH: EAST KENT DISTRICT MEETINGS.

NINE CASES OF PLACENTA PRÆVIA.

By GEORGE RIGDEN, Esq., Canterbury.

[*Read September 11th*, 1862.]

CASES of placental presentation are fortunately not often met with, and therefore it falls to the lot of a single practitioner to see but a very few of them; but when they do occur, the danger with which they are almost invariably attended, makes a deep impression upon the mind of the medical attendant.

In 75,596 cases of midwifery recorded by nineteen observers, there occurred 182 cases of placenta prævia, giving a proportion of about one in 420 cases. That the placenta is, however, implanted over the os uteri in a greater number of cases than the above figures would seem to indicate, is evident from the observations of Naegele, who, by means of the stethoscope, ascertained that of 600 cases of impregnation, the placenta was attached to the left side of the uterus in 238 cases, to the right side in 141 cases; in 20 cases no sound was perceptible; in 160 cases the sound was weak or diffused so as to be uncertain; in 7 it was attached to the fundus; in 13, to the anterior wall; and in 11 cases, or about one in 55, to the os uteri. These observations therefore, in addition to our own experience, render it more than probable that many of the miscarriages that happen at about the fifth or sixth month, which would seem otherwise obscure, are due to this unfortunate position of the placental mass.

That placenta prævia is attended with extreme danger both to the mother and to the child, is evident from the result of cases collected and tabulated by Dr. Churchill. From these it appears, that of 182 cases, the result to the mother was fatal in 51, or about one in three; and it is very rare indeed that the child can be saved, and the very few who are saved are generally premature, and often live but a short period after birth.

It may naturally be supposed that I have but few cases to bring before the meeting; but the subject seems one well worthy the consideration and accumulated experience of the members of this Society, and more particularly since different modes of treatment have been of late years strongly recommended by our best obstetric authorities.

It has been my misfortune to meet with nine cases.

The first case occurred in January 1842, in Winchean Street, Canterbury; the patient was aged about 40 years, the mother of several children. She was nearly at the full time of utero-gestation, and was reported to have been flooding considerably at short intervals for more than a month past. The placenta was found attached completely over the os uteri; but it was so thin, particularly at the most prominent part, that the head could be distinctly felt in the natural position through its substance; it was therefore punctured with the end of the finger, and the head immediately descended through the aperture. All hæmorrhage was suspended, and the child was quickly delivered by the natural efforts. Upon the expulsion of the placenta, the aperture through which the child had passed was found close to the insertion of the umbilical cord, and as nearly as possible in the centre of the mass. The child was still-born, and the mother made a good recovery.

The second case was in November 1844, in the Military Road, Canterbury. The mother was rather more than 20 years of age. It was her first labour. She was about eight months advanced in pregnancy. Flooding had occurred at intervals for several weeks past. The placenta