Illustrations

OF

HOSPITAL PRACTICE:

METROPOLITAN AND PROVINCIAL.

ST. GEORGE'S HOSPITAL.

CASES OF FRACTURE OF THE BASE OF THE SKULL:
WITH REMARKS.

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FORMERLY fracture of the base of the skull was looked upon as an injury almost inevitably fatal; and it is only within the last few years that it has been shown that these cases, not only sometimes, but often recover. Two of the cases detailed below are given as exemplifying the good results which may follow this class of injuries, in cases where the diagnostic symptoms are sufficiently well marked as to leave no doubt as to the nature of the injury; and to these are added two others, one of which terminated fatally, in which the symptoms were not so well marked, and in which some doubt existed as to the real nature of the lesion.

CASE I. Thomas M., aged 18, groom, was admitted September 30th, 1864, under Mr. Hewett.

History. No very satisfactory account of the accident could be obtained, but it appeared that he was thrown out of a cart which he was driving. He himself had no recollection of the accident, and did not know whether he pitched on his head. He was insensible when picked up. He had not been drinking.

On admission, he was in a semi-comatose state, lying on his side and breathing quietly. He could be roused with difficulty; but evidently objected to it, and speedily relapsed into the same stupid state. He would answer questions when roused, though incoherently. There was no paralysis. There was no bruise or wound about the head, but there was bleeding from the left ear. No abrasion could be found about the external meatus. The pupils were natural and acted. Pulse 80, compressible; skin cold.

Oct. 1st. He was much more sensible than last night. He had passed a quiet night, but had been very sick. He now answered questions rationally, and asked for anything he wanted. Oozing of blood from the ear still continued. The pulse was 84, compressible, greatly accelerated when roused. The tongue was clean; the pupils natural. He was ordered three grains of calomel immediately.

Oct. 2nd. Last evening the pulse rose and became rather hard. He was bled to eight ounces. Afterwards he passed a quiet night, and this morning seemed comfortable, though drowsy and stupid. There was no more bleeding from the ear, but some appearance of a clear discharge on the pillow. Pulse 70, quiet, compressible; skin warm and moist; tongue clean. The bowels had acted.

Oct. 4th. He complained of more pain in his head. The tongue was furred and white. Pulse 76, soft and compressible. The discharge from the ear had quite stopped. A large tender swelling had appeared on the left temple. He was ordered to repeat the calomel at night, and to have a senna draught the next morning.

Oct. 6th. He still remained in a drowsy state; he appeared to wander considerably, and was constantly

crying out. He could be roused sufficiently to answer questions. Tongue furred; pulse 72. The mouth was drawn slightly to the right side. There was much œdema and swelling over the left temporal muscles; and the skin was red and acutely painful.

Oct. 7th. He was much more rational, and seemed altogether brighter and better; but he had been very restless all night and in great pain. Tongue furred; pulse 76, compressible. The œdema, swelling, and redness, had extended on to the face and down the side of the neck.

There was an indistinct feeling of fluctuation over the swelling, which was extremely painful. An incision was made into the tumour, and a small quantity of pus and a considerable amount of broken-down blood was discharged. On passing the finger in, the bone was felt to be exposed and roughened. The finger could be introduced to a very considerable extent under the temporal muscle. A poultice was ordered to be applied.

Oct. 8th. He was very much relieved by the incision, and had had a quiet night. There was less swelling and redness down the side of the neck. Tongue cleaner; pulse 80. Fish diet was ordered.

Oct. 9th. He slept well, and seemed quite bright and cheerful; he had quite lost his former drowsy appearance. Pulse 76; tongue still slightly furred. The swelling of the face and down the side of the neck had entirely subsided. The mouth was still slightly drawn to the right side. He complained of being deaf on the injured side.

He went on well till the 16th, when he complained of more pain, after having passed a very restless night. A large swelling was found above the left ear. This was opened, and a large quantity of pus and blood escaped. There was also discharge from the left ear. His tongue was furred; pulse 113; skin hot. He was ordered to repeat the calomel and senna.

The discharge from the ear continued till the 25th, when it ceased. The scalp to a great extent again became adherent to the bone; and he was discharged November 18th with one small sinus, which led down to exposed bone.

March 6th, 1865. He showed himself at the hospital. A small piece of necrosed bone had come away, and the wound was quite healed. He seemed quite hearty and strong.

CASE II. Thomas F., aged 21, butcher, was admitted November 1st, 1864, under Mr. Hewett.

History. A short time before admission, he was cleaning the windows on the second floor of a house, and, "missing his hold," he fell into the area below, pitching upon his head. He was insensible when picked up, and had no recollection of the accident.

On admission, he was sensible enough to answer questions and state the reason of the accident. When not roused, he lay on his left side, moaning and breathing heavily. He complained of his head "feeling queer." There was no bruise nor wound of the head. There was considerable oozing of blood from the right ear; and there was coagulated blood in the nostril. He was very deaf on the right side, and the mouth was drawn to the left side. The pupils acted naturally. The pulse was 72; the tongue clean.

Nov. 2nd. He was more conscious and rational, but drowsy. He complained of pain in the head. There had been continuous and very considerable bleeding from the ear throughout the night, and it still continued in small quantities this morning. Tongue clean; pulse 72, soft. He was ordered to have three grains of calomel at night, and a senna draught the following morning, and to take nothing but beef-tea.

Nov. 4th. The bleeding had now all stopped. He

was still drowsy, but in no pain, complaining only of numbness down the right side of face, and "tingling noises" in the right ear. He was still very deaf on this side, and the face was drawn to the left.

Nov. 5th. He had been very restless all night, and complained of intense pain in the head. There was a wild and vacant stare about the face. Skin hot; pulse 84, full; tongue furred. He was ordered to repeat the pill and draught.

Nov. 7th. He still continued to be extremely restless; did not sleep at all, on account of the great pain and singing in the head. The tongue was furred, and was protruded to the left side; pulse 64, full. The bowels had acted freely. He was ordered to have the head shaved and ice applied, and to take two grains of calomel twice a day.

Nov. 8th. He had had rather a better night, and was in less pain. Pulse 64; tongue furred; skin cool. The bowels had acted slightly.

Nov. 11th. The pain continued to abate; and to-day he thought he could hear a little better. Tongue very white; pulse 60, soft. He was ordered to repeat the pill every night.

Nov. 14th. He said that now the pain was only very trifling. He heard better, and the face was less drawn; he could now close the eyelid. Pulse quiet. He was ordered to have fish diet, and to leave off the pill.

Nov. 17th. The pain had entirely left him. There was still something, however, peculiar about his manner; he answered questions abruptly, and there was a vacant expression. Tongue clean; pulse quiet. He was ordered to have ordinary diet.

From this date he gradually improved; the face assumed its natural aspect; the deafness disappeared to a certain extent; and he lost his abrupt manner.

He was discharged December 3rd.

CASE III. Denis M., aged 27, labourer, was admitted November 28th, under Mr. Hewett.

History. He was discovered by a policeman lying in an area in a state of intoxication. He was supposed to have fallen down, but it was not known how long he had been there.

On admission, he was quite insensible and smelt of liquor. The surface of the body was warm; the pupils were contracted, but sensible; pulse 60, soft. There was a scalp wound about an inch long over the left parietal eminence, not going down to the bone. Soon after admission, he vomited a quantity of fluid strongly smelling of rum.

Nov. 29th. He had been constantly sick during the night. This morning he was to a certain extent sensible, but being in a drowsy state, and passed his urine and motions unconsciously. He complained much of his head. Pulse 84, fluttering; skin hot. The pupils were contracted, but acted. He was ordered to have three grains of calomel immediately, and broth diet.

Dec. 1st. He still lay in a sleepy state, taking no notice of anything or anybody; but he was more conscious; was aware when his bowels were going to act, and he answered questions rationally. There was total deafness on the left side, and the mouth was drawn to the right side. Pulse 64, weak and fluttering; pupils natural.

Dec. 2nd. He seemed much brighter, and began to take notice of surrounding objects. The deafness still continued. There was effusion of blood under the left optic conjunctiva on the outer side of the globe, passing back into the orbit beyond the view; no effusion into the eyelid. On telling him to close the nostril and mouth and blow up the Eustachian tube, no air entered the left tympanum, nor did any come out of the external auditory meatus.

On examination of the ear with the speculum, the

membrana tympani was found to be unimpaired, but to bulge considerably outwards.

Dec. 4th. He was now quite sensible. He complained of pain down the left side of the face, and giddiness. Pulse 58, very weak. He was ordered to take half a drachm of sal volatile in camphor mixture three times a day.

From this time he gradually improved; permanent deafness, however, continued, though the paralysis of the face disappeared.

He was discharged December 28th.

CASE IV. William S., aged 17, plasterer, was admitted January 23rd, 1865, under Mr. Hewett.

History. Half an hour before admission, he fell off a ladder a distance of fourteen feet. He was insensible when picked up, and had no recollection of the accident.

On admission, he was perfectly sensible and answered questions rationally. The skin was cool; pulse 100, full. The pupils were dilated, insensible. There was slight oozing of blood from the left ear. There was no wound or bruise to be felt or seen about the head. He was ordered to have five grains of calomel immediately, and beef-tea for diet.

Jan. 24th. He had passed a quiet night, and was quite sensible. All bleeding from the ear ceased soon after admission, and did not recur. Pulse 96, soft. The pupils were natural and acted. The tongue was clean. The bowels had not acted. He was ordered to have a senna draught.

Jan. 27th. He had gone on well till to-day, when he complained of having been in very great pain all night. The pain was confined to the left ear and left side of the face. This morning there was a little purulent discharge from the ear, and the pain had somewhat abated. Pulse 84, full; tongue white; skin hot. A linseed poultice was applied to the ear.

Jan. 31st. There were still discharges from the ear and pain in the head, though the pain was not so great. He complained of deafness on the affected side.

Feb. 2nd. He had passed a very restless night, and complained of very great pain, not only in the left ear, but across the vault of the skull. The tongue was furred. He had a most anxious expression of countenance. Pulse 102, very weak; skin hot. There was some loss of muscular power on the right side of the face. He was ordered to have a blister applied to the nape of the neck, and to have four ounces of brandy daily, and two grains of calomel to-night.

Feb. 4th. He slept all night and seemed better this morning. Pulse 60, weak. His appearance was less anxious. He still complained of great pain. The discharge from the ear continued.

Feb. 6th. He passed a quiet night. He said the pain was no better, and his expression was rather anxious. There was more discharge from the ear. Pulse 60, weak; tongue clean.

Feb. 7th. He did not seem so well; did not sleep last night. Pulse rather quicker, 72, quite compressible. There was more anxiety of countenance. He was ordered to have the third of a grain of morphia at night.

Feb. 8th. He seemed hardly conscious; was constantly wandering in his talk, and answered questions vaguely. He still complained of intense pain in the head. Pulse very quick and weak. He was ordered to repeat the anodyne draught immediately and at bedtime, and to have another blister.

Feb. 9th. He was quite unconscious. The breathing was laboured; the pulse very quick and running; the pupils were dilated and insensible. He died at 5 p.m.

POST MORTEM EXAMINATION. There was no sign

of external injury. The surface of the brain was slightly injected, and the convolutions on both sides were flattened. The ventricles were distended with sero-purulent fluid, and the septum lucidum was softened. There was about a tablespoonful of pus in the arachnoid cavity at the base of the skull. A quantity of the same fluid occupied the sub-arachnoid cavity, all about the pons and optic commissure. It also passed up the fissures communicating with the spaces at the base, and lay in considerable quantities in the median fissure of the cerebellum. The lining membrane of the ventricles appeared natural, but pus adhered closely to the choroid plexus. The fourth ventricle contained pus. There was a fracture of the base of the skull commencing on the left side of the cranium, about an inch above the petrous bone; it passed thence across the anterior aspect of that bone, and terminated close to the middle lacerated foramen, which was not penetrated. There was no displacement, nor any injury to the dura mater. The membrana tympani was lacerated. No other parts were examined.

REMARKS. The foregoing cases present several points of interest, and worthy of observation.

In the first two cases (Cases I and II), the symptoms were sufficiently well marked to leave no doubt as to the nature of the injury. The bleeding from the ear was both *profuse* and *continuous*; and this, conjoined with rupture of the membrana tympani, is sufficient to establish a diagnosis. On this Mr. Prescott Hewett is very positive. He says: "The bleeding, to be of any value to us as surgeons, must be of a serious nature; but this is not all, it must also, and mark this especially, continue for some time; and if, in addition to these points, you can also ascertain that the membrana tympani has been recently ruptured, you need no longer hesitate; and, let the issue of the case be what it may, you can state with confidence that there is a fracture of the base running through the petrous bone." (*Vide Lectures on Injuries of the Head, Medical Times and Gazette*, vol. i, 1858, p. 445.) Hence it will be seen that the first two cases were clearly fractures of the base. Not so the other two; here in one case there was no bleeding, and in the other the bleeding was neither profuse nor continuous. We have then to look for other symptoms; and the symptom which ranks next to that of escape of some of the contents of the skull, is injury done to the nerves as they are emerging from the foramina at the base of the skull; and curiously enough this symptom was present in all four cases. In all of the patients under review, there was deafness and paralysis of the affected side of the face indicating injury to the seventh pair of nerves. It is evident, however, that these nerves may be injured without fracture of the base, or the portion of brain from which they take their origin may have suffered some lesion, and thus their functions may be destroyed; so that this symptom standing alone, does not afford us a certain means of diagnosis, and it behoves us to look further. In Case III the symptoms which, in conjunction with the paralysis, determined the diagnosis, were twofold. First the state of the tympanum, which was proved to be full of something; and from the history of the case, we were justified in asserting this something to be blood; and secondly, the effusion of blood under the ocular conjunctiva, and moreover, this effusion extending back into the cellular tissue of the orbit beyond our sight. This, therefore, must have been a most extensive fracture implicating both anterior and middle fossa; and the only thing required to make it a complete case, was a rupture of the membrana tympani; this remaining entire, threw some obscurity over it.

With regard to the fourth case (Case IV), the symptoms were extremely obscure, and had it not been that the boy died and a *post mortem* examination revealed the state of the injury, the diagnosis must ever have been uncertain. True it is that he had bleeding from the ear, but this bleeding was neither profuse nor continuous; "there was a little oozing which soon stopped," so that this symptom was of little value. In the same way, though he had paralysis of the seventh pair, this symptom by itself was of little value, since it was argued that there might have been some injury done to the external ear, which in the first place had caused the hæmorrhage; that that injury had set up inflammation, which had extended through the bones to the membranes of the brain, causing inflammation of the latter, and on its way implicating the portio dura and portio mollis as they pass through the bone.

Thus there were no certain symptoms to found an opinion; and none was attempted, as it is far better in such cases to find a fracture when not anticipated, than to be reproached with having diagnosed a fracture which never existed. It is remarkable how often the symptom of paralysis of the seventh pair of nerves is present in these cases of fracture of the middle fossa of the base of the skull. On referring to my note-book for the last two years, I find a record of thirteen well marked cases of fracture of the base, and in ten of these this symptom was present. Of these ten, the symptom did not come on for some time after the accident; in eight, the period varying from two to six days; in the remaining two, the symptom was present when the patients first came under observation. The state of the pupil was a symptom formerly much relied on; but, from an examination of the thirteen cases under review, this sign is shown to be most untrustworthy. In six cases, the pupils are reported as natural, and acting under the stimulus of light; in three, the pupils were dilated, but sensible to light; in two, they were dilated and fixed; and in the other two, they were contracted, but acted.

Another point of interest in connection with these cases is the extreme variety of cerebral symptoms which they present in some, symptoms of a severe nature presenting themselves; in others, a total absence of all cerebral disturbance being observed; so that the presence or otherwise of these signs is not to be depended on. One symptom, however, is pretty constant, and that is the presence of concussion; it was observed in all of the thirteen cases. But it may be said that an injury sufficient to produce a fracture of the bones of the skull, is sufficient to produce a jarring of the brain; and this is undoubtedly true. Hence, we meet with cases in which the most extensive and severe injury has been done to the brain without any fracture of the bones; and, on the other hand, we find cases where the base is fractured without any visible injury to the brain. It has been stated above, that cases of fracture of the base of the skull are not so fatal as was formerly supposed. Of the thirteen cases, embracing all that have been admitted into St. George's Hospital during a period of two years, five proved fatal; in three, death occurred from laceration of the brain; in two, within forty-eight hours of the receipt of the injury, and in the other, on the fourth day; in the remaining two, the fatal result was produced by inflammation of the membranes; so that, provided there be no symptoms to indicate any serious lesion of the brain-substance itself, we are justified in giving a favourable, though, of course, a somewhat guarded prognosis.

The treatment in these cases appears to consist in keeping the patient in perfect quietude and on low diet, and carefully waiting and watching for symp-

toms of inflammation of the brain or its membranes. Should these symptoms arise, the pulse is the best index for treatment. On reference to Case iv, it will be seen that the patient was treated with stimulants from the first; but it will also be seen that his pulse was weak, and after the first day never over sixty, until just before his decease, when it mounted rapidly. Should, however, the pulse increase in number and volume, as in Case ii, small doses of calomel and counterirritation are the remedies; but it appears that these patients bear the administration of mercury less well than cases of the idiopathic form of this disease. The quantity, however, must be regulated by the state of the pulse.

Original Communications.

ENTOPTICS:

OBSERVATIONS ON THE RELATIVELY GREATER FREQUENCY OF MYODESOPSIA IN THE MYOPIC EYE.

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[Concluded from page 507.]

THE pearly and watery spectra are invariably associated with the earliest symptoms in nearly all affections of the conjunctivæ. The student sitting late and long over his books or microscope; the astronomer at his telescope, after long hours of night watching; the barrister and lawyer; are all, sooner or later, warned to desist by various troublesome spectra which confuse and dim the sight. Another class of sufferers from *muscæ volitantes* are those whose occupations make increasing demands upon the organ of vision. Intently occupied, it may be, in a badly-lighted and ill-ventilated room, and in a bent and constrained position, for many consecutive hours. An example or two of this class will serve to show the kind of annoyance usually experienced by them.

A gentleman, constantly engaged as a draughtsman, suffered for some time from spectra, which increased to such an extent, that after two hours at most he could proceed no longer with his work. A complete blur or black blot settled down over certain portions of the drawing, chiefly taking the form represented in fig. 10. If the day were cloudy, or the

Fig. 10.

general health at all disturbed, they were much more troublesome; and always appeared to move in the horizontal plane. When walking the spectra took other forms; generally some six to ten feet in advance and above the line of vision, and looking like groups of pearly drops. Upon raising the head, they

then had all the appearance of a cluster of stars or crystals, represented in fig. 11. Apparitions of the lacrymal fluids were nearly always visible, and espe-

Fig. 11.

cially so after long fasting or fatigue; but much less troublesome when walking in a brilliant sunshine. At times, he thought rain was falling before him, each drop being surrounded by a bright halo of colours; then, again, descending more slowly, gliding, as it were, before the pupil, as represented in fig. 12.

Fig. 12.

As this gentleman required only the occasional use of concave glasses for distant objects, it may be assumed that the spectra most annoying to him were in a great measure due to rays of light falling upon the retina in a state of dissipation.

Another illustrative case was that of a law-writer, also myopic, who, after days and nights of great fatigue, being at the time employed in the preparation of Parliamentary papers, became the subject of most annoying pearly and watery spectra. These were at one time associated with the more alarming symptoms of paralysis of the retina; insensible portions of which caused a partial obliteration of all objects. Letters and words were completely broken up, and occasionally quite blotted out; and when the head was thrown up, watery spectra fell over the sight like jets

Fig. 13.

of spray from a fountain; or at other times resembling branches of trees covered with snow, as in fig. 13. Compare this with the good bold Roman