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INJURIES TO THE HEAD.

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WHEN I was a boy, ten years of age, I fell from a horse, fracturing my frontal bone in two places. The four-inch cut in the forehead was sutured—that was all of the treatment. Recovery was prompt.

Shortly after that I saw a soldier strike a comrade with his fist a blow immediately above the left ear, and death resulted in an hour. The treatment was venesection.

These two incidents, more especially the first, made an indelible impression on my youthful mind, and throughout my student and professional life I have tried to learn upon what the element of danger depends in cases of head-injuries. Bryant states that "all injuries to the head should be treated with extreme care, and *always regarded as serious*." (Italics mine.)

I have read somewhere that no injury to the head is so slight but that there is danger, and none so grave but that there is hope. No rule or law can be laid down to govern these cases. Every case must be a law unto itself.

CASE I.—In 1885, J. D. was struck on the frontal bone, at the edge of the hair, by a companion, with a foot-adze (a cooper's tool). The result was a depressed fracture, nearly four inches long, and hemorrhage sufficient to occasion syncope. Two hours afterward, the depressed bone was lifted to its place, when arterial hemorrhage again threatened the life of the patient. Other means proving useless, the bone was allowed to press upon the brain and the bleeding ceased. The patient had not lost

consciousness, except when he fainted. He was advised of his danger and put upon ergot and cold compresses. This treatment may be criticized as bad surgery, but the patient made an uninterrupted recovery, and is alive and well to-day, a deep depression being the only result.

CASE II.—In an altercation with his brother, T. M. was struck on the head with a small scaly rock, receiving a wound that bled only a few drops. No impression was made on the general system, and the patient paid no attention to his hurt. Twenty days afterward, inflammation of the diploë set in, and was rapidly followed by meningeal inflammation and death.

CASE III.—While engaged in compressing a radial artery of a small boy, severed in opening a fruit-can, my attention was called to a street fight in front of my office; as I looked, a strong, muscular teamster plunged a pocket-knife into his adversary's brain, at a point near the junction of the sagittal and coronal sutures (bregma). The blade sank to the hilt, and in extracting it the assailant used all his power and wrenched it from side to side three times. When the three-and-a-quarter inch blade was finally withdrawn, arterial blood, in a solid column, flew high in air, and the victim sank to the ground unconscious. When I reached his side he was exsanguine and pulseless, and bleeding had ceased—in less than five minutes. A wound of the arm was sutured and the patient was taken to a hotel, stripped of his blood-soaked clothing, his head enveloped in iced cloths, and ergotine, gr. ij, administered hypodermatically. In six hours paralysis of the opposite half of the body was complete; the pulse reappeared at the wrist and signs of reaction set in. In eighteen hours the patient opened his eyes and asked for a drink of whiskey. During the three weeks of illness that followed, the paralysis gradually subsided and recovery became complete. Now, two years and a half after the reception of the injury, the patient is in perfect health, and smokes a strong pipe

almost constantly. The amount of brain-tissue that was disorganized must have been considerable, and the loss of blood was measured by the capacity of the heart to pump it out. The man belonged to that innumerable throng around which no surgeon can place antiseptic precautions, while the opportunity for infection was constant; still he escaped.

CASE IV.—In play, a schoolboy, ten years old, was struck upon the head by a small falling rock which his companion had tossed into the air. There was no abrasion and very slight contusion. On the third day afterward, severe headache set in and continued. On the seventh day the usual symptoms of meningeal inflammation developed, and death closed the scene in less than three weeks from the day of injury. A reviewer might say that the traumatism and the fatal illness were merely coincident, but the impartial judgment of the physicians concerned in the case attributed death to the head-injury. Unfortunately no post-mortem examination was permitted.

CASE V.—J. M., sixty years old, while asleep in bed, was struck by an insane person two blows with an axe. The ball or blunt end of the axe was used, and the first blow landed on the side of the head, half an inch above the left ear. The sleeping victim turned partly over and received the second blow transversely across the forehead, an inch above the eyebrow. The entire arch of one eye was fractured loose and hung down nearly an inch lower than that of the other side. At least a tablespoonful of brain-matter had oozed from the gaping wounds and ran down on the man's face, and blood was flowing freely from both ears. Loose fragments of bone were removed, and the battered head was shaped up, and with a few stitches and strips of adhesive plaster the man was made moderately presentable. During the toilet, brain-matter was washed and wiped away freely. Deep stupor, with very shallow and slow respiration and slow

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pulse, continued for four days. The patient then showed slight signs of rallying, and after two months of illness made a good recovery—only a slight degree of mental impairment remaining four years afterward.

CASE VI.—A. C., thirty-five years old, was thrown from a buggy by a runaway horse. In addition to a cut on one foot and dislocation of two fingers, he received a wound about one inch long, some two inches above the inion, in the middle line. Upon washing the wound a stellate fracture was observed. No symptoms of internal injury were present; the patient was conscious and conversed freely. Convalescence seemed well established, and for three or four weeks not a symptom occurred indicative of any deep-seated injury to the head. At the end of that time mental aberration and motor and amnesic aphasia supervened. The usual symptoms of general diffuse inflammation of the meninges rapidly followed in succession. In consultation, it was decided not to trephine at the seat of injury, as the symptoms pointed to injury by *contre-coup* in the frontal lobes. The post-mortem examination disclosed a large abscess at the seat of injury and another on the upper surface of the right frontal lobe. Trephining and draining the posterior abscess would not have saved the patient.

CASE VII.—While riding along the road, M. W. was fired upon and received a bullet in the left side of his head, at the anterior inferior angle of the parietal bone. The post-mortem examination, made thirty-six hours afterward, showed that the bullet had been deflected downward, had passed through the brain, and had lodged against the temporal bone on the opposite side of the head. Notwithstanding this injury, the man dismounted, climbed over a fence, and pursued his assassin twenty or thirty yards, in fact until he received another bullet, this time in the abdomen. He then went back to his horse and rode two miles. To the physicians who attended him he repeatedly said that the wound in his

head was insignificant. He remained rational as long as he lived, and never manifested the slightest symptom of brain-injury. The cause of the death was hemorrhage into the abdominal cavity from a severed small artery.

In this series of cases one feature is most noticeable, that is, that when hemorrhage was free the patients recovered, even though there was loss of brain-substance. Should all injuries to the head be regarded as serious? Should a physician treat every case of head-traumatism as serious?

A few weeks ago I was called to see a man who had received a severe blow on top of the head with a blunt instrument. When I reached his side he was vomiting, and plainly in a state of shock. I regarded the case as serious, and advised him to remain in bed five or six days. On the following day he went about his business. Of course, such a case proves nothing, but it indicates that the physician ought not to be precipitate in action.

I knew a surgeon who had made extensive preparations to do the operation of trephining for depressed fracture. With grips and boxes and bottles and assistants, he approached the house of the patient only to find that the latter had gone out of doors.