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COMPOUND COMMINUTED FRACTURES OF THE ARM. AMPUTATION OF THE SHOULDER-JOINT. CASE OF MRS. S. E. SHAW.

BY EDWARD WARREN, M.D.

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ABOUT ten o'clock on the night of the 27th of January, 1852, I was suddenly called to the railroad depot in this place, to see some person or persons injured by the train which had just come in. I learned that after the train had stopped, the persons employed about it heard groans, and going back found two persons badly injured lying on or near the track. A third was found upon the platform of the depot, but not badly hurt.

On arriving at the depot, I found my former patient, Mr. Shaw,* lying upon the floor in great agony, but unfortunately in perfect possession of his senses. His left arm was torn off close to the shoulder-joint—the separated portion being fairly ground up into atoms.

Having examined him, I was called into the ladies' apartment, where I found Dr. J. P. Maynard, who then practised in this place, and Mrs. Shaw. She was lying upon the floor. Her left arm was torn off, hanging only by a thread of flesh. Her right arm was broken above the elbow, near the middle of the humerus. There was a compound comminuted fracture at the elbow-joint. Below the elbow were two large and deep punctures, made by some blunt instrument such as a spike, penetrating the bone and causing compound comminuted fractures also. There was a simple fracture of the ulna near the wrist. Thus, there were two simple fractures, and three compound comminuted fractures of this limb; the case so far resembling Mr. Shaw's, in his first accident. Besides this, the thumb was torn off at the root, and the end of the fore-finger was gone. There was a triangular wound over one eye, forming a flap, and penetrating the outer plate of the bone. Above this, on the forehead, was another wound two inches in length, penetrating the periosteum and scraping the bone.

In the mean time, the conductor of the train had sent to Boston for additional surgical aid. He thought it would take a little over

* See p. 513, Vol. LX.

an hour to go and return. Dr. Maynard and myself, therefore—after doing what was immediately required to Mr. S., dressing Mrs. Shaw's wounds upon the forehead, both of which required sutures, and attending to other minor particulars—agreed to await the arrival of the surgeons or surgeon sent for.

It was about two o'clock, more than four hours after the accident, before any one arrived. Dr. John C. Warren was sent for, but his age and health not permitting him to come, the services of Dr. Henry J. Bigelow were obtained.

On his arrival we examined the patients together. Mrs. Shaw's case we considered most favorable. Mr. Shaw's appeared doubtful. The arm torn off so near the body; his size rendering the wound proportionably large; the fact that persons of his make and constitution suffer more than those of spare habit of body, and bear nerve injuries worse; these circumstances inclined to an unfavorable prognosis. On the other hand, my experience of his prompt recovery, in the former case, gave very strong hope for a favorable issue in this one.

We proceeded to operate upon Mrs. Shaw. Amputation was performed by Dr. Bigelow upon the remains of the left arm, leaving a fair stump. The ragged portion at the root of the thumb, and that of the fore-finger, were removed by the knife, and bandages applied. The right arm was bandaged with temporary splints. We then turned our attention to Mr. Shaw. The arm was torn off so near the shoulder-joint, that Dr. Bigelow thought it would be advisable to remove the stump at the articulation—an operation seldom performed, but which has several times been done successfully by Dr. Lewis. After some hesitation, Dr. Maynard and myself consented. The patient was supported in a chair by two assistants. Dr. Maynard administered ether. The disarticulation was very skilfully performed by Dr. Bigelow, little blood was lost, and the patient seemed to undergo it without exhaustion. We then proceeded to apply bandages. Just as we had completed the dressing, sudden syncope took place.

Every exertion was made to restore him. Dr. Bigelow, by placing his mouth in contact with his, labored to inflate the lungs. Respiration and pulsation were restored, and he revived. For some minutes he seemed recovering, but suddenly he again became inanimate, and all further attempts to restore him failed. He died just at day-light. Mrs. Shaw required some further slight attentions. She fortunately continued insensible, and to this cause she undoubtedly owed her life.

On the next day splints were sent out to us by Dr. Bigelow, and applied by Dr. Maynard and myself. Short splints were applied to the arm and fore-arm, and the whole placed in a hinge splint, which admitted of daily motion of the elbow-joint. Dr. Maynard and myself continued to visit her, morning and afternoon, at first in consultation; afterwards I saw her in the morning and

he in the afternoon for about a month—after which I continued my attendance alone.

Things went on favorably, and in about ten days she began to recover consciousness. The stump was healing well. I carefully preserved the length of the remaining arm, and kept the ends of the humerus in immovable contact at the place of fracture. But there had been no redness of the skin, no swelling, no pain; in short, the limb at rest presented every appearance of a perfectly sound one. This state of things continued. She recovered full consciousness; the stump healed well; the simple fracture of the ulna united; and the compound fractures of the fore-arm and the elbow became united and healed in the usual time. The wounds upon the forehead and those of the thumb and fore-finger, did well; but no pain, inflammation or swelling ever occurred at the seat of fracture in the humerus. Though appearing well and sound when at rest, on a slight motion it bent in the middle.

During her convalescence, she suffered from inflammation of the eyes, and severe neuralgic pains. After four months continued application of the splints, it was judged best to remove them daily, to apply friction and other remedial measures to the limb.

In the month of September, I consulted my brother Dr. John C. Warren by letter, describing the case. His answer was as follows, dated September 29th, 1852:

*"First—*I think the continued application of a bandage would by its pressure prevent union.

*"Second—*I should make a case of paste-board, or light wood, to support the arm and prevent motion, without making pressure on the arteries.

*"Third—*If, in three or four weeks, there is no appearance of union, I would pass a seton between the bones."

The bandages were consequently discontinued, and a paste-board case applied. No change, however, took place. After some time longer I discontinued my attendance, leaving her in charge of her brother-in-law, who had become expert in dressing the arm; and her daughters, who were also able to assist. The application of a seton she was unwilling to submit to, without a longer trial. Neither could I urge it, after what she had already suffered.

About a year after this, all other measures having failed, she applied to me to go with her to Dr. John C. Warren, to ascertain if he would still advise a seton, or if he considered benefit might be derived from any other course. I accompanied her to his house on the 7th of November, 1853, about ten months after the accident. Dr. J. Mason Warren was present at the consultation. Dr. Warren was not now in favor of a seton. He thought it an uncertain and dangerous measure, as it had in some instances produced a fatal result, from constitutional irritation. He advised some slight measures which I have forgotten, but considered the case a hopeless one—one not to be benefited by any surgical means,

Some length of time after this, I went with my patient to the house of Dr. H. J. Bigelow, where a consultation was held between Dr. Winslow Lewis, Dr. Bigelow, Dr. Maynard and myself. After a thorough and deliberate examination of the arm, all agreed that the ends of the bone were in apposition; that the cause to which I attributed the non-union was the correct one, viz., the extent and number of the other injuries—the wounds of the elbow and fore-arm, thumb and finger, and on the other side, that of the stump, drawing off the inflammation from the seat of fracture and preventing the necessary action. It was also unanimously agreed that there was now no probability of union, and no operation of any kind would be desirable.

Her present state is as follows:—The left arm is gone. The right arm has an artificial joint about the middle of the humerus, so as to bend when she attempts to raise the limb, and requires the constant support of a paste-board case. The elbow has become stiff. During my attendance, I kept up the motion of the elbow by daily flexion; but since then, the motion at the place of the fracture, by rendering the elbow-joint useless, has allowed it to become stiff. The rotation of the wrist is lost, and the thumb and end of the fore-finger gone.

By supporting her elbow upon her knee, and bending down her head, she can reach her face with her hand. But she cannot dress herself, and is in fact almost helpless.

She has suffered and still suffers very severely from neuralgic pains in the head, body and limbs. At times she has had numbness in the arm, and other symptoms threatening the loss by paralysis of the little use she has of it.

At the time of the accident, the patients were living in easy circumstances, and some degree of elegance, in Grantville—Mr. S. being in profitable business.

Mrs. Shaw brought an action against the Boston & Worcester Railroad Corporation, for the injuries sustained by herself. It is just terminated, after four trials, in which forty-seven out of forty-eight jurors decided in her favor. The decision was confirmed in June last by the full bench of Judges of the Supreme Court, and the amount (\$24,738) has just been paid to her. This is a larger sum than ever before awarded in a similar case in this State—a slight compensation, however, for the mutilation and physical suffering Mrs. S. has experienced.

Newton Lower Falls, Ms., August, 1859.