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Original Communications.

IMPALEMENT OF ABDOMEN AND THORAX, WITH DISSECTION TWENTY YEARS SUBSEQUENTLY.

Communicated to the Boston Society for Medical Improvement, Jan. 8, 1872,
by JOSEPH SARGENT, M.D., Worcester.

SOME of the older members of the Society may recollect the case of impalement which I reported to this Society about eighteen years ago. The account was published in the transactions of the Society at that time. It was, in brief, an account of a woman 37 years of age, who, in sliding down the hay from a loft, was impaled on the handle of a pitchfork, which entered the body through the vagina, to a distance of twenty-two inches, where it was arrested by the upper left rib, which it apparently broke, and by the woman's feet reaching the floor. There was no injury of bladder, of uterus or of intestine, the urine being passed without blood, and there being no escape of feces or of flatus and no peritonitis. I found blood flowing from the vagina, and fulness and soreness and pain in the locality of the supposed fractured rib, where there was afterwards emphysema and crepitation as of broken bone, and subsequently prominent callus. I saw, also, the pitchfork-handle, with its abrupt bloody line twenty-two inches from its rounded end, and afterwards placed it in the cabinet of the Society.

The accident occurred August 7th, 1851. The patient died Dec. 29th, 1871; and I made the autopsy Dec. 31st, about forty-six hours after death, of which the following is my report:—

The left thorax was observed to be considerably more prominent than the right. No percussion was made. Dividing the right sterno-costal cartilages and sawing through the left clavicle near the shoulder, I lifted the sternum and the left ribs, exposing the cavity of the left chest, which was found to be entirely filled with proper

contents of the abdomen. These were afterwards found to be the stomach, the transverse colon with a few inches of the descending colon, and a considerable portion of the small intestines. All of these had passed through an opening in the diaphragm at the left of the median line. This opening was an irregular oval, with rounded edges, and occupied a large part of the left half of the diaphragm, being about four inches in diameter. The stomach and all that part of the intestines lying in the chest, and also the portion of small intestine in the abdomen were distended with flatus, while the descending colon and sigmoid flexure were scarcely larger than the finger and were filled with scybala. One fold of the small intestine in the chest, at the left side of the aperture in the diaphragm and just above its constriction, was agglutinated by a red, rough thickening of its peritoneal coat so as to present a mass which was at first mistaken for the spleen, which organ was afterwards found in the abdominal cavity and in healthy condition. There were some small coagula lying on the intestines in the right side of the abdomen, which I could explain only by referring them to this diseased surface, a small effusion having occurred in life in the act of vomiting, or by some handling of the patient *post mortem*. The peritoneal coat of the intestines was generally reddened, without being sticky, and there was no appearance of pus or of lymph in the abdomen.

There were adhesions midway of the left costal pleura, between it and the omentum. The transverse colon and a fold of the small intestine were crowding against the clavicle and the upper rib.

The callus of fracture of this first rib was quite conspicuous.*

* My friend, Dr. J. B. S. Jackson, who has examined all the parts comprised in this description, writes me that he does not think that this rib was ever broken. He says "the cartilage that connects it with the sternum is quite irregular on its lower edge, and there is an extensive development in it of as perfect bone as the rib itself, very different from the common ossified cartilage. Broken cartilage, it is said, unites by bone. Now why was not this cartilage broken? Not perfectly—for the upper edge is smooth and regular." The patient herself,

The left lung was compressed to the thickness of the hand, and was permeable to air only at its anterior surface, and in its lower lobe, and in all for a space of perhaps five inches by one inch. It had also contracted adhesions with the stomach. The heart was crowded to the right of the sternum. It was entirely healthy, as was also the right lung.

On removing the contents of the abdomen, a large, irregular cicatrix was quite obvious in the peritoneum of the left recto-uterine *cul de sac*.

I send for demonstration the sternum and a portion of the left clavicle with the upper two ribs; and also the left lower ribs, with the whole diaphragm and the organs *in situ*.*

I had not seen this patient for nearly three years before she died. Her last medical treatment was under "Homœopathy," which she testified her want of confidence in, as all homœopaths do, by adding potential doses to the numerous comfits which it gratifies their credulity to swallow. There was a saucer full of sugar powders at her bed-side, while she was in the habit of taking four teaspoonfuls of laudanum in a night.

I am told that she suffered greatly and for many years with oppression and flatulence, and constipation, and sometimes with nausea. She complained especially of the left sub-sternal region. She could not lie on her right side nor on her back, and was so tired of lying on her left side that she sat up most of the time for a year before her death, and had bed sores about the coccyx. She had sat up at night mostly for nine or ten years. Her last illness attracted the less attention because her whole life had long been one of so much suffering. She complained, however, especially of pain in the left hypochondrium, and I could not but associate this with the inflamed intestinal peritoneum which I have described in that locality. With this pain, vomiting does not seem to have been a prominent symptom, although my information, here, is not entirely reliable.

I am told that this patient, who in her various distress for many years had sought, at many hands, relief which she could never procure, had for a long time been in the

as it is stated in my notes, taken at the time, two days after the accident, said that "when she drew a full breath she felt something snap and catch." And she placed this sensation just on the line of the axilla and near the axilla.

* Dr. Sargent sent the pitchfork to the Society soon after the accident occurred.—Ed.

habit of taking opium and morphine in large quantities.

There were present at the *post-mortem* examination Dr. Gage, Dr. Wood, Dr. Geo. Bates, Dr. J. Marcus Rice, Dr. Park and Dr. C. H. Davis.

The foregoing is the paper as presented to the Boston Society for Medical Improvement, the parts having been demonstrated by Dr. J. B. S. Jackson, with the addition of the foot-note as to what I considered the callus of the broken rib and Dr. Jackson's correction. In acceding to numerous requests for its publication, I have but little to add. The case is interesting as being perhaps unique. The treatment was only by enforced rest, the chest being supported firmly by a broad bandage, and the system saturated with morphine, of which the patient got three grains, in one-grain doses, within six hours from the time of the injury. The recovery was, perhaps, not very remarkable, when we look at it in the light, so to speak, of subcutaneous surgery, and consider that, except for the slight injury to the lung, as proved by the emphysema, it was only the vagina and the diaphragm and the rib or cartilage that were injured. The large, rounded end of the pitchfork would much more readily glide by organs than damage them. The question immediately suggests itself how long had these proper contents of the abdomen occupied the thorax? I am entirely unable to answer this, having made no careful examination whatever of the patient after the first fortnight following the injury. In the notes of the examination, at my first visit, I say, the patient lying on her back, "The abdomen was somewhat tumid, but universally resonant quite down to the flanks. The thorax resounds well, also, quite down to the back on each side, and the respiration is heard everywhere in front." And the following day, August 8, 1851, in the morning, I record, "Abdomen resonant universally and not tender. Thorax resonant; respiration vesicular. Some emphysema above left clavicle. Pulse not much accelerated." On the evening of the same day, I record, "Emphysema not noticeable." Aug. 9, 1851, I state, "Pulse 120. Abdomen and chest still resonant and not tender. It gives her pain in left chest, as it has from the beginning, to draw a full breath, and I do not hear the respiration, as patient lies, in the left chest; but I suppose this to be from insufficient expansion. She wears the bandage very tight." On the evening of the same day, I record, "Pulse

120. Tongue densely coated. Abdomen and chest resonant. Says that when she draws a full breath she feels something snap and catch in the left chest."

So much for the history of the condition immediately after the injury. I have stated what the patient's subsequent life was. Her death seems to have been by peritonitis, which, strange to say, was in the left thorax. Also, this was, perhaps, without any such nausea as is usually a preliminary and a constant symptom in peritonitis.

Worcester, Jan. 6., 1872.

TREPHINING IN EPILEPSY.

By JAMES T. BOUTELLE, M.D., Boston.

CASES of epilepsy following depressed fractures of the skull, though happily not of frequent occurrence, are now and then met with by the surgeon. The cause of the disease is so obvious and apparently so easily removed, that an operation seems imperative. The patient, harassed by continued convulsions, discouraged by the total want of success in the various remedies he has tried, and in daily fear of bodily injury, is eager to undergo any treatment which promises even a chance of recovery, and willing to suffer anything and encounter any risk rather than live on in a hopeless condition, with a prospect of approaching idiocy.

A priori, if we remove the cause the effect will cease. It is my purpose now to discover how nearly the facts agree with this theory, as far as can be determined by a comparison of those cases only which have occurred at the Massachusetts General Hospital since its foundation. There have been in all twelve cases, and the record of a few may serve as a type of all, the clinical histories being in general very similar, viz., a blow on the head producing fracture, with depression, recovery from the immediate effects of the accident, then, after an interval of health varying from a few weeks to many years, epileptic or epileptiform seizures begin and continue, with longer or shorter intervals, but generally increasing gradually in frequency and violence.

I.—(Case 1 in table.) Cath. L., æt. 28. Entered Feb. 6th, 1832. Eighteen years ago was struck upon the head by a brick which fell from the roof of a house. The result was a depressed fracture of the left parietal bone one inch from the middle of the sagittal suture. A year and a half before, she had an epileptic fit, and others occurred afterwards at irregular intervals.

Last fit took place about a week before entrance.

Feb. 21st.—Dr. Warren removed all of the depressed portion with the circular trephine. The piece removed was found much thickened, so as to have caused considerable pressure on the brain.

The after-treatment was decidedly antiphlogistic. Venesection was performed twice; antimonii tart. and cathartics, mercurial and otherwise, were liberally administered. A fit occurred on March 24th and another on April 1st. No more are recorded, and the patient was discharged well on June 17th, one month and seventeen days since the last convulsion.

II.—(Case 3 in table.) M. P., æt. 26. Entered Sept. 19th, 1842. Nineteen years previously was thrown from an ox against a stone wall, and received a depressed fracture of the left parietal bone. Recovered in a few months from the immediate effects of the injury, with the exception of partial paralysis of the right side, and was able to attend to his work for nine years, when, after exposure to cold and wet, he was attacked with necrosis of various bones, chiefly of the lower extremity. Six years before entrance, he began to have epileptic fits, which occurred at intervals of three to six weeks. Remained under treatment until Nov. 4th, during which time he had three fits.

Nov. 5th.—Dr. Hayward removed, with the trephine, a piece of skull one inch in diameter. All the depressions could not be removed, several projecting points being felt at the anterior edge of the incision. The piece removed was three-fourths of an inch thick at one end and one-eighth of an inch at the other, the depressed part having been driven under and united to the skull, projecting downwards upon the brain. Flap retained by one suture.

On the second day after operation, a succession of fits took place. Venesection was performed, but every day fits occurred, five or six in number. Became unconscious on the fourth day and gradually failed. Death on the seventh day.

Autopsy.—Softening and sloughing of dura mater, and arachnoid infiltrated with pus. Abscess of left hemisphere beneath opening.

III.—(Case 4 in table.) Sarah H., æt. 10, entered May 31st, 1849. Received a blow upon the head in infancy and has been subject to epileptiform convulsions ever since. Is of little intelligence, wild and unmanageable. There is a deep depression behind the coronal suture, three or four inches long and an inch wide.