

MR. TIPPLE'S CHEST WOUND

A Case of Lateral Transfixion in the Year 1812

by

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On the 13th of June 1812 there occurred an accident which is probably unique in the annals of Medicine. Mr. Thomas Tipple, the victim, was unharnessing a horse from a chaise and incautiously took off the bridle first. The animal immediately became unruly and Tipple endeavoured to secure him by taking hold of his foretop in order to replace the bridle but the horse made a violent lunge and thrust him against the wooden wall of the chaise-house. Here he made a great effort to free himself but the horse continued to lunge and forced the gig-shaft laterally through Tipple's chest and through the weather-boarding, the end showing for several inches on the other side so that he was impaled and held until his cries brought assistance. Fortunately for him two farriers, the brothers Lawrance, were passing and ran into the yard where they quickly put the horse back by twitching his ear and nose, and then turned to Mr. Tipple who appeared to be confined in some way by the shaft passing through the front of his clothing, but to their great astonishment they discovered that the shaft had passed through the chest and was protruding several inches outside the body. At the first attempt to release him Mr. Tipple cried 'Oh'; he was then lifted and gently pushed towards the end of the shaft which by this means was made to retrace its path through the thorax. As soon as he was free, and finding that his breathing was not affected, he walked into the house, pulled off his waistcoat and looked at the wounds which were not bleeding as he would have wished. He then walked upstairs with a steady step to the first floor where he was advised to stop but on a previous visit to this house of his friend, Mr. Overton, he remembered that his room on the second floor was preferable as it looked east, was more airy, and free from the annoyance of the afternoon sun. He therefore climbed unaided a second flight of stairs and entered his room where he sat on a chair. Here Mr. Lawrance offered to undress him and to this he agreed as he thought that any exertion would be liable to promote the inward bleeding he expected to ensue. When nearly undressed he felt for the first time a faintness which he attributed to blood trickling on his lungs attended with extreme difficulty of breathing. He then got into bed and remained in a sitting position until Mr. Maiden, the surgeon, arrived.

Mr. Maiden had been sent for in great haste and alarmed by the account of the accident he mounted the messenger's horse and rode with utmost speed from Stratford to Mr. Overton's house near Forest Gate where he arrived ten minutes afterwards. His first question was, had the patient brought up any blood and being answered in the negative he said it was impossible that the lungs could be wounded but hastened upstairs and found Mr. Tipple in bed

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supported by several pillows. He first examined the left side of the patient where the shaft with tug-iron attached had entered the chest. Here, to his great surprise, he saw air with blood issuing freely from the wound and fearing that any movement would increase the haemorrhage the wound was at once covered with some linen and the arm brought closely to the side.

The patient was now breathing with extreme difficulty and said: 'I feel a dreadful weight in my chest as if I should be suffocated by the blood trickling on my lungs.' The surgeon, too, supposed that he was suffering from internal haemorrhage and quickly opened a large vein in the arm. By this means the oppression was gradually relieved and as the pulse was equal to the bleeding it was allowed to proceed until four pounds of blood had been taken when faintness came on for which the attendants were eager to apply restoratives but the doctor allowed only a little cold water to be given. Maiden then went downstairs to examine the scene of the accident and found that the shaft had been forced through the weather-boarding on the outside of the chaise-house and had also broken down a large piece of board and two strong nails by which it had been fastened to the quartering. The distance through the side of the building, including the thickness of the two boards, measured five and a half inches. The length of the shaft penetrating the chest, including the tug-iron, was two feet. The tip was an inch and three-sixteenths by three-quarters of an inch and bevelled one-eighth of an inch; its thickness increased to the tug-iron where it was six inches in girth.

Sir William Blizard arrives

Nothing more was done until Sir William Blizard arrived at half-past eleven, and after hearing an account of the accident he and Maiden examined the wound on the left side, supposing that to be where the shaft had entered but the patient himself informed them, with the calmness which he showed throughout, that this wound was made by the tug-iron and that where the shaft entered was higher up, immediately under the arm, and he added that there was also a wound on the right side through which the shaft came out. The patient's account was proved to be correct and it was also found that the left shoulder and chest were slightly emphysematous.

The wounds were dressed, the arms carefully brought to the sides, and the doctors retired to another room where Sir William expressed the opinion that the patient would not live through the night, that as soon as the action of the heart revived the internal haemorrhage would return and then he would sink. The surgeons left the house under this impression between one and two in the morning.

Still Alive

At eight o'clock next morning Maiden was surprised to find the patient in much the same state and that he had enjoyed some sleep. Sir William was again sent for and came about midday when he advised a draught of infusion of roses with a drachm of sulphate of magnesia every sixth hour.

Next day the difficulty in breathing had much increased with considerable weight, pain, and soreness in the chest; these symptoms were much relieved by a further bleeding of thirty ounces. The stomach and bowels were much distended and an enema with castor-oil was administered in the evening and five grains of calomel were ordered to be taken at bedtime.

On Tuesday Sir William attended with Maiden at 8 a.m., the usual time of meeting to the end. The calomel had acted but the patient had been very restless and had vomited frequently. He complained of pain in the region of the diaphragm, difficulty in breathing, and soreness in the chest for which eighteen ounces of blood were taken from the arm with immediate relief but in the afternoon the vomiting recurred with hiccough which symptoms were relieved by the saline effervescent draught. In the evening the expected fatal termination seemed to be fast approaching but next day June the seventeenth, it was found that the patient had passed a better night with some sleep. However, the difficulty of breathing with soreness of the chest had greatly increased and these were relieved by a further bleeding of seventeen ounces.

Next day the breathing was again laborious whereupon twenty-two ounces of blood were withdrawn with much relief. The patient said he felt no pain in the back or chest except the smarting of the wounds and a great tenderness about the breastbone which he thought was broken. In view of urgent symptoms this morning Sir William advised the application of a large blistering plaster over the sternum. This had a good effect but on Saturday evening respiration again became difficult and nineteen ounces of blood were taken away. On this day several threads of flannel from the patient's waistcoat were seen to be deeply embedded in the wound and by Sir William's advice they were allowed to remain and came away several days later.

On Sunday, a week after the accident, the symptoms having moderated, broth was added to the diet which had been only of vegetable matter. Next day there was less pain and difficulty of breathing but he had distressing sensations about the chest which he could not describe and as the pulse was full Sir William advised the abstraction of more blood but before this was done the under flannel waistcoat and shirt were removed. These had become very unpleasant but could not be taken off while the patient's condition was so critical. Now, with support, he sat up in bed and the surgeons were able to make a close examination of the wounds, and the back, in no part of which the slightest injury could be seen nor pain upon being pressed.

Sir William orates

When the examination was finished the doctors retired to another room and Sir William exclaimed:

I have witnessed what until now I should have conceived impossible; that the shaft has not passed over the spine is very clear, I have no doubt of its having perforated the chest, but in what manner the vital organs have escaped mortal hurt no human being can tell; the case, I am persuaded, is without a parallel. Believing that the direction of the shaft has been through

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the thorax I am of opinion that recovery cannot rationally be expected, for, although he has been saved from internal haemorrhage by the large bleeding, and, notwithstanding its repetitions have kept down inflammatory action, still the chest internally must necessarily have suffered such injury as will eventually prove fatal. Yet what appeared to us impossible having already happened, let us continue the struggle and, whatever may be its result, we shall have the consolatory reflection of having done our duty. I would therefore advise perseverance in the means thus far successfully employed, and should repeat the bleeding.

The patient was accordingly bled to fourteen ounces and he said that he was more relieved than he had been before and felt no pain, only a smarting of the wounds, and internally on each side of the breastbone in the direction in which he was convinced the shaft had passed. A large blister was now applied to the sternum and the aperient medicines continued, and on Thursday the twenty-fifth of June the alarming effects of the injury had so far subsided as to admit of a reasonable hope of recovery. However, the blistered part was kept freely discharging and aperients frequently administered for several days; the patient gradually recovered and the wounds healed though not entirely closed at the end of nine weeks.

The patient's digestion, which had been weak for some time before the accident, was thought to be better in spite of the dark grumous stools passed during his illness, but his general health was much impaired, his breathing was difficult upon exertion and there was undiminished soreness in the breast where a hollow existed, caused by a depression of two or three cartilages on the left side of the sternum. The scar of the shaft wound on the left side was near the fifth rib; on the right side somewhat lower. Mr. Tipple was now in his thirty-fourth year.

Unbelievers

As the account of the accident had met with disbelief in some quarters and a few surgeons had peremptorily denied its possibility, Maiden had the various testimonies sworn before local magistrates who had themselves investigated the circumstances of the accident. As soon as Tipple had sufficiently recovered, his Narrative and that of the Lawrance's were

Subscribed and verified, upon oath before us, the undersigned Justices of the Peace, acting in and for the County of Essex, this 18th day of July, 1812.

Wm. Manbey, Wm. Dyer, John M. Henniker, Wm. Tolbut, Wm. Wilson.

The Justices asked Mr. Tipple questions as to any disability resulting from the injury. He replied that he had suffered no pain or soreness in the back or any difficulty in moving his arms. His only complaint was a trifling stiffness across the chest since the wounds had begun to heal.

Three months after the accident the patient attended for examination by Blizard and his staff at the London Hospital where William Clift saw him and noted that the cicatrix under each arm was very visible. In the course of his illness he had been relieved of eleven and a half pounds of blood.

The next ten years

During the later years of his life the patient came under the care of Dr. J. W. K. Parkinson, son of James, who wrote the classical *Essay on the Shaking Palsy*. It appears that he had suffered no inconvenience for the first five years except from being more out of breath on exertion and a tightness across the chest when he raised his arms or drew them backwards. But he had suffered several fits of gout and a severe attack of acute rheumatism.

Five years after the accident he had considerable difficulty in breathing and wore an anxious expression; pulse very irregular and heart struggling rather than pulsating. Copious bleeding restored him but his pulse remained irregular and frequent similar attacks were brought on by his own indiscretions. These attacks were treated as the first with the addition of active purging, digitalis, and occasional application of blisters. During one attack Dr. Farre was called in and he advised a mild mercurial to be added to the digitalis, and this treatment was adopted until his gums became sore and the more urgent symptoms abated.

The patient's general health became much impaired and the last attack, six weeks before his death, pointed to further involvement of the bronchi from which he had great difficulty in expectorating a glairy-like mucus. There was also much uneasiness across the chest accompanied by feelings which he said were indescribable. The lower limbs suddenly became oedematous but ten days before his death the swelling quickly subsided and soon afterwards he complained of great uneasiness about the praecordium which could not be relieved. On the morning of the day he died he had been assisted downstairs into his sitting-room and while speaking his voice faded and he suddenly expired.

Mrs. Tipple expressed an earnest wish that the body should be examined and added: 'I am not only complying with a desire often expressed by my late husband, but I conceive I am fulfilling a duty I owe to the living.'

Post-Mortem

Under the superintendence of Sir William Blizard the body was examined two days after death by Clift and Harkness assisted by J. W. K. Parkinson in the presence of James Parkinson, Andrews, and Elliot. In the *National Register* account Astley Cooper and Abernethy are also included.

Although Blizard and Maiden had no doubt that the shaft had been forced through the chest the post-mortem was conducted as if doubt still existed.

The thorax appeared to be somewhat distorted by reason of an angular projection and two considerable depressions in the region of the sternum. Beneath the left axilla two scars were present and on the right side between the third and fourth ribs another cicatrix was seen about an inch in length. The pectoral muscles appeared to be rather wasted and the pectoralis minor on each side adhered to and covered a thin, transparent, but strong membranous substance which filled the space on each side between the second and third ribs, and on the left side the cartilage of the second rib had been fractured.

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The wounds of the outer structures did not correspond in position with the wounds between the ribs owing to the arms having been raised when the shaft penetrated the chest. In his 'Brief Commentary on the Case' Blizard says:

Doubtless an agglutination of the wounded integuments and muscular fibres below the openings between the ribs was soon effected and thus the admission of air was prevented and the foundation laid for the favourable issue of the case.

On the left side the cartilage of the second rib had been fractured, the ends being separated a quarter-inch though connected by a ligamentous substance. The rib itself was fractured, together with the cartilages of the third and fourth ribs though here a bony union had occurred. On the right side the third rib had been fractured and its sternal extremity had undergone a diminution of substance.

The angular projection across the sternum was found to be occasioned by the fractured parts being turned outward thus forming an obtuse angle. The ends, considerably enlarged, were connected by a ligamentous substance.

The ribs were now sawn through midway between their extremities and the sternum separated from the clavicles. The lungs were found to be strongly adherent to the pleurae at their posterior part and to those parts on either side disrupted by the thrust of the shaft.

The pericardium was almost entirely attached to but easily separated from the surface of the heart. This organ was larger than usual and the right ventricle seemed to be more spacious and muscular than the left.

The lungs were of a deep livid hue and dense in structure, a small portion of the lower part of the left lung retained a natural appearance. The dense structure of the lungs and apparent turgid condition of the pulmonary system of vessels were the only expressions of organic change of fatal tendency which could be referred to the accident as a remote cause.

No morbid change was seen in the abdominal or pelvic viscera and no traces of injury to muscles of the back or to the spine.

The gig-shaft and the anterior wall of the chest were presented by Maiden to the Royal College of Surgeons where the chest in its recent state was shown at a special Court of Examiners on 4 March 1823. The specimens were then placed in the Museum where they were on view for more than a century until destroyed by enemy action in May 1941. The present writer handled the black-painted shaft many times and found no sign of split or dent resulting from the rough treatment it had received; it was probably fashioned from a piece of ash or hickory which was used when toughness and resilience were required. Beside it, as a 'wet' specimen, stood the chest with a 'window' on either side which had been closed by a thin ligamentous covering. Cotton-wool had been used as a stuffing against a back-board to preserve the shape of the chest.

No case exactly comparable to the above has been found in the medical literature. The chief interest in Maiden's case is that the patient escaped severe

injury and survived for so many years after what appeared to be a fatal accident. This was due to the shape of the shaft which, being blunt at the end, thrust aside the vital organs in its passage through the chest.

WILLIAM MAIDEN (1766–1845)

Sir William Blizard attributed the patient's recovery to Maiden's treatment which consisted of copious bleeding, low diet, and purgatives and especially to his

judicious forbearance of the use of a finger or a probe for the purpose of ascertaining the course of the shaft. Many lives [he said] have been sacrificed to the gratification of curiosity by researches into the direction and extent of wounds in the body.

As Maiden was such an important figure in this strange case it is fitting that we should know something of his life and character. He was born at Strood in Kent in 1768, and in 1783 was apprenticed to Jos. Coventry Lowdell at a fee of £100. He received his medical education at St. Thomas's Hospital and qualified M.R.C.S. on 4 March 1790. At St. Thomas's he was a pupil of Sir Astley Cooper, who mentions him in one of his manuscript notes on digestion.

The gastric juice of the human subject [he says] dissolves bony matter altho slowly. On Monday ye 28th March a little girl nearly 4 years of age swallowed a domino. She was a daughter of Mr. Collins residing at No. 3 Essex Buildings, Stratford. Mr. Maiden was sent for and by ye exhibition of Purges in three days ye Domino passed ye Bowells—Upon weighing it it was found to be only 34 Grains whilst the others weighed 56 grs so that it had lost 22 grains. The surfaces covered with black matter were prominent buttons having been defended from ye action of ye gastric juice.

About 1790 Maiden journeyed to Paris where for two years he continued his medical studies and soon after returning succeeded to the practice of Mr. English at Stratford in Essex. The assiduity with which he pursued his profession, joined with the extreme benevolence which so peculiarly marked his character, gained him the esteem of the wealthy, the love of the poor, the respect of his medical brethren and of all who knew him.

In addition to being a very successful practitioner Maiden was well known as an ardent admirer of flowers, particularly tulips, for which he had given as much as a hundred guineas for a single bloom. Public days were appointed annually for their exhibition to which resorted his friends and the gentry of the neighbourhood.

Maiden was seized with a paralytic attack on 18 June 1838 from which he never fully recovered, and died on 20 March 1845, aged seventy-seven years.

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BIBLIOGRAPHICAL NOTE

The foregoing report is based on William Maiden's *An Account of a Case of Recovery, after an Extraordinary Accident, by which the Shaft of a Chaise had been forced through the Thorax*, London, 1812. A second impression of this work was published in 1813 and there was a 're-publication' in 1824 with plates drawn by William Clift. The first edition of 1812 is extremely rare, only three copies having so far been discovered, in the British Museum, the Royal College of Physicians of London and the Royal Society. A long summary, practically a reprint of the first edition, is to be found in the *London Medical and Physical Journal*, 1813, xxix, 68–72.

Further particulars of this case, together with a review of the literature on transfixation injuries, will be published in the *Annals of the Royal College of Surgeons of England*.