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Hospital Reports.

BRISTOL ROYAL INFIRMARY.

CASES OF DEATH FROM ENTRANCE OF NEEDLES INTO THE CHEST.

(Reported by N. CRISP, Esq.)

CASE I. *Fatal Case of Wound of the Pleura by a Needle.* (Under the care of THOMAS GREEN, Esq.)* Patrick Hagerty, aged 22 years, was admitted into the Bristol Royal Infirmary, on May 26th, 1856. He stated that two nights previously he ran with force against a woman, and immediately afterwards he found that a needle in her gown was driven into his chest, and broken off. He felt a little pain at the time, which soon passed off entirely. On his admission, he was seen by Mr. Bernard and the house-surgeon; at that time they saw nothing to lead them to suppose that the organs within the thorax had been injured.

He was first seen by Mr. Green on Tuesday, the 27th, at one o'clock. He appeared in great suffering, breathing rapidly, and with a most anxious expression of countenance. The house-surgeon had attempted to remove the needle in the morning of the 27th; he thought he felt it, but could not succeed in extracting it. On examining the chest, a small punctured wound was found under the left nipple; respirations about 120 in a minute; unable to draw a deep breath; intense pain at the wound; pulse 130. The respiratory murmur was audible, and appeared natural over the front of the chest; no friction sound. There was dulness over the region of the heart; its sounds were indistinct, and appeared tumultuous.

A consultation of the surgeons to the infirmary was immediately held. It was evident that the needle had entered the walls of the chest, and wounded its contents. The general opinion was, that the pericardium, perhaps the heart, had been wounded. The man's sufferings were most acute; and it was considered that unless the needle could be extracted, the case must terminate fatally. It was decided in consultation to endeavour by careful dissection to find and extract the needle; but not, of course, to enter the cavity of the chest.

Mr. Green began the operation by a transverse incision, about four inches long, under the left nipple, and on the spot where the needle had entered, down to the pectoralis muscle, which was next divided in the same direction; the rib and intercostal muscles were now laid bare to some extent, when the broken end of the needle was felt deeply imbedded in these muscles between the fourth and fifth ribs; it was grasped by a forceps without much difficulty, and at once extracted. The operation was so far successful, but gave no relief to the patient's sufferings. Two grains of calomel and half a grain of opium were given every two hours.

May 28th. Symptoms but slightly relieved; respirations 110; pulse 120; pain still acute; mouth not affected. He has taken the calomel and opium regularly, which he is to continue.

May 29th. A decided improvement has taken place in

all the symptoms. He can breathe with more freedom; pain gone; pulse 120; respirations reduced to 40 in a minute. The gums tender. The features show at a glance the improvement in his condition. At this visit, for the first time, a slight friction sound could be heard near the wound. The calomel and opium were continued every four hours.

May 30th. An entire change in the symptoms has taken place since yesterday. The breathing is as rapid as at first; the pulse 140, small; sweating coming on; great prostration; all leading to the belief that extensive effusion into the chest had taken place. Stimulants were freely given; but he gradually sank, and died the following morning.

On examination after death, there was found effusion of turbid fluid to a large extent in the cavity of the pleura; the surface of this membrane was covered with lymph recently thrown out—the usual appearances of acute pleuritis. The needle appeared to have wounded the lung, which, at this point, was slightly ecchymosed, with great congestion around; the pleura here looked as if it had been scratched. The external surface of the pericardium was adherent to the lung; the cavity contained about two ounces of clear fluid.

CASE II. *Fatal Case of Wound of the Heart by a Needle.* (Under the care of A. PRICHARD, Esq.) John Cavill, an infant, between four and five months old, was brought to the Bristol Royal Infirmary at about 11 o'clock on the morning of October 3rd, 1856, the mother stating that a needle had run into the child's chest, and had been broken off in trying to extract it, leaving a portion of it behind. It was seen by the surgical pupil, who felt the end of the needle beneath the skin, close to the right side of the sternum, and above the cartilage of the sixth rib; and who made a slight incision in the direction of it, but did not succeed in removing it. This incision I slightly enlarged, and endeavoured to extract the needle, which at times could be felt both with the finger and the forceps; but all my attempts were rendered futile by the struggling and crying of the child, the end of the needle constantly shifting its position with each respiratory effort. Chloroform was then administered, but not to its full effect, as the child appeared to become a little faint; and Mr. Prichard, who then saw him, endeavoured to extract it without success; and, after one or two attempts, the needle could no longer be distinctly felt. No unusual symptoms had existed during this time. The child was restless; but this might fairly be attributed to fright, the pain of the incision, and attempts at extraction; and when these attempts were discontinued, he seemed somewhat exhausted, but not more so than was likely to arise from its crying and struggling. It was sent to a ward, and a poultice applied to the wound; it went to sleep comfortably for an hour or two, woke up apparently quite comfortable, and took the breast, and again went to sleep. In the course of three or four hours, it suddenly became much collapsed, from which condition it somewhat rallied, under the influence of warmth and stimulants; again collapsed; and, at about 12 at night, was in a very exhausted state; pulse very feeble and quick; extremities cold; respiration humid and catching. On examining the wound, I felt the needle sticking up in it, and extracted it without the slightest difficulty. This was followed by some slight but only temporary relief to the symptoms; and the child continued gradually sinking until its death, which took place at a quarter to 4 A.M. of October 4th, forty-one hours after the accident, and

* Read at the Quarterly Meeting of the Bath and Bristol Branch, by N. Crisp, Esq.

twenty-three hours after the needle had been extracted. It was quite impossible to make any correct auscultatory diagnosis of the condition of the chest during life, as any attempts to do so frightened and disturbed the child much. There was considerable dullness over the right side on percussion; and the respiration at times was much like that of a person suffering from pleurisy. For some time previously to death, the symptoms were those of hæmorrhagic exhaustion.

EXAMINATION OF THE BODY, nine hours after death. The body appeared slightly blanched; and, close to the sternum on its right side, and between the fifth and sixth ribs, and at a spot corresponding to where the incision had been made during life, was discovered a small opening, easily allowing a small probe to pass through into the thoracic cavity. On removing the sternum, the right side of the chest was found to contain about two ounces of fluid blood; and blood also appeared extravasated into the structures about the pericardium. The lung was quite free from injury or disease. An opening was found in the pericardium, opposite to that in the parietes of the thorax; and about half an ounce of sero-sanguineous fluid, or rather nearly pure blood, was found in its cavity. Floating in this fluid were some small portions of flocculent lymph. Opposite to the opening in the pericardium, on the right ventricle, was a small patch of recent lymph, about the size of a sixpence; and in the middle of this patch, nearly if not entirely covered by the lymph, was discovered an opening through which a bristle, and afterwards a small probe, easily passed into the ventricular cavity. On laying it open, it was found to contain a small clot, and the opening passing through one of the columnæ carneæ. The three wounds, namely, that through the thoracic parietes, and those through the pericardium and muscular structure of the heart, were very nearly opposite to one another, their direction being slightly obliquely inwards. No wound of the intercostal artery could be discovered.

REMARKS. Since drawing up these notes, the mother of the baby has informed me that the accident took place nearly thirty hours before she brought it to the infirmary; the way in which it happened being this. The baby, who was dressed in some thin linen clothing, in addition to a flannel dress, was taken up in the arms of a child about six years of age: it almost immediately began to cry; and the child told the mother that a needle, which she had stuck into the front part of her dress, had run into the baby; and, in trying to get it out, she had broken it off. The infant was taken to a "dispensary," and the surgeon "poked it about a great deal," but could not find anything; and, as the child did not seem to suffer any inconvenience, nothing more was done. During the ensuing night, it was crying and restless, and the next morning was brought to the infirmary; thus making the period which elapsed between the receipt of the injury and the fatal result nearly seventy hours, the first fifteen or eighteen passing over without any symptoms of distress developing themselves.

The case is interesting on account of the rare occurrence of an accident of this nature. Several cases of wounds of the heart from stabs, or similar kinds of injuries, are on record; very few are to be met with in which an instrument so small as a needle had penetrated its interior; and I am not aware that any have occurred in which that organ was injured by a needle entering on the right side of the thorax, as was the case in this instance.

The case is also both interesting and instructive, as showing that severe wounds may be received by the central organ of circulation, without being immediately productive of urgent symptoms; and going far to prove that a small punctured wound is not necessarily fatal. In this instance, I think, death was more the result of exhaustion dependent on the loss of blood, than from any inflammatory action; the slight traces of pericarditis showing an amount of disease quite inadequate of itself to account for death; and surely the amount of blood lost in this case was

sufficient to destroy the life of an infant four months old, as in all probability a much more depressing influence is produced on the system by the loss of blood directly from the heart, than is brought about by the abstraction of an equal or even much larger quantity by any ordinary method, no doubt existing in my mind but that nearly if not all the blood lost in this case was poured out from the heart itself. Mr. Holmes Coote mentions an instance in which a man, for suicidal purposes, thrust a needle into the left ventricle of the heart; he lived for five or six days, death appearing to be the result of pericarditis, abundant evidences of which were discovered after death; the needle was found firmly imbedded in the muscular structure of the ventricle, the point entering its cavity. Might not hæmorrhage in this case have been prevented by the foreign body remaining in the wound, and so acting as a plug? It is singular that a portion of needle not three quarters of an inch in length should have penetrated so deeply into the thorax; but very likely the child who was nursing the baby may have clasped it tightly—an action which would tend to compress its chest, and so bring the contents of that cavity into closer proximity with its parietes than ordinarily exists. In the case of the Irishman, it came out on the inquest that the needle ran into his chest as he was embracing the woman, not, as he stated, by simply running against her; so that the two cases in this respect are somewhat similar, and probably in both cases the needles were broken off some way beneath the integument previously to coming to the infirmary.

Hospital Cleanings.

HOSPITAL STATISTICS IN REFERENCE TO RATES OF MORTALITY AFTER AND BEFORE THE INTRODUCTION OF CHLOROFORM.

THE statements recently made by Dr. Arnott, respecting the high rate of mortality after operations under chloroform, have appeared of sufficient importance to the surgeons of St. Bartholomew's Hospital to lead Mr. HOLMES COOTE (wishing to meet the matter with facts rather than with opinions) to state the result of an examination of the hospital books.

Chloroform is at present administered at St. Bartholomew's with a frequency which must cause any exceptional circumstances to be at once perceptible in the annual returns of deaths. Under the effect of chloroform, contracted limbs are rendered straight, painful tumours and dislocations are examined, and patients are sounded for stone; nævi in infants are tied or burnt, and a host of such minor operations of every sort are performed; strangulated herniæ are examined, and dozens of cases of inguinal hernia, in particular, are returned without operation. It would be as difficult to decide, in fact, how many times chloroform is administered during the year, as to say how many abscesses are opened: it constitutes, in a word, as common an occurrence in hospitals as any of these accidents; and its use is becoming every year more and more common, and, we believe, less and less dangerous.

What has been the effect of chloroform upon the rate of mortality? Mr. Coote, we believe, was one of the first who applied sulphuric ether for Mr. Lawrence in 1846; while the practice of anæsthetics did not come into any sort of general use till 1848. He has contrasted the returns of 1845-7 with those of the recent years, 1854-6, when chloroform, as just stated, is all but universally used in all the operations, not alone of St. Bartholomew's, but of all the large hospitals.