to become hereditary, or that epilepsy is dependent upon its presence as a factor. The same may be said in regard to traumatic causes, such as heavy blows upon the back of the neck, either criminal or accidental, as by snow-slides from houses, injury to the spinal column, by falls upon stairs and sidewalks, to children by falls from bed during sleep, by strains however produced; all of these may cause inflammation that extending upwards, terminates in an anchylosis between the atlas and the base of the skull, to be verified only after death.

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A CASE OF SPONTANEOUS PERFORATION OF THE HEART, WITH OBSCURE SYMPTOMS.¹

BY J. A. TANNER, M.D., DORCHESTER.

ON the 6th of December, 1894, about six o'clock P. M., I was called to Mr. E., a well-built, well-preserved, strong and active man for his age of eighty-four years, and found him suffering from a severe pain in the epigastric region, the pain extending to the right hypochondriac region. Accompanying the pain were nausea and straining efforts to vomit, with erructations of gas. The pain came on suddenly, and no cause could be traced of over-eating or error of diet. There was a history of a slight slip of his right foot on the ice several hours previous, as he was returning home from his business. There was no rise of temperature; the pulse was full and strong and beating about 80 per minute; the respiration was regular, and no more rapid than would be looked for in any one suffering with pain. No complaint was made of distress in breathing. I found on inquiry that he had

felt well during the day, had eaten his dinner with a relish, had a movement of the bowels and passed water freely. Remembering that some eighteen months' previous, I had seen him in an attack somewhat similar, which was considerably relieved by the vomiting of undigested food, and fully relieved by the after administration of Squibbs' compound tincture of opium, I gave him a mild mustard draught as an emetic. This in a short time caused an easy evacuation of the stomach, a small amount of partially-digested food and considerable gas appearing.

The nausea and straining to vomit was relived, but there was only a slight relief from the pain. One teaspoonful of Squibbs' mixture, well diluted with water, was then given; and in the course of three-quarters of an hour, the pain was much abated. I left the patient about 7.30, when he was quite comfortable, with respiration and pulse regular and normal. At 9 o'clock the patient was visited again; and as there was some return of the pain, half a teaspoonful of the Squibbs' mixture was given with good effect, and at 10 o'clock he was easy and comfortable. At 3 A. M. I was called in a hurry. I found the patient in a state of collapse, the respiration rapid and catchy; the pulse feeble, intermittent and beating at rate of 120 per minute; the hands and arms, feet and legs were clammy and cold, there was an abundant frothy, watery, bloody, mucous expectoration, with a loud and coarse rattle in the throat on inspiration and expiration, a condition of general edema of lungs; the finger-nails and lips were cyanotic; half a teaspoonful of aromatic spirits of ammonia was given by mouth, and brandy was used hypodermically. The pulse and breathing improved, and these remedies were continued, a steady improvement of the symptoms following, so that in an hour the patient was practically out of the collapse, but he commenced to complain of severe pain.

At this stage I wished to use morphia, but finding the family and patient had an *extreme* prejudice against it, and considering the age of the patient, I gave up the use of it, and concluded to use Hoffmann's anodyne, which would relieve pain and also act as a stimulant of the heart and respiration; so a teaspoonful was given every half-hour, until relief from pain was secured. In two hours' time the patient was so comfortable and all the symptoms were so much improved that I left and went home; the pulse then beating regular and at the rate of 90, the respiration regular and 24; with very little expectoration, and all signs of edema of lungs rapidly disappearing.

I saw the patient again about 10 o'clock, when I informed the family that I did not know what was affecting him and a consultation was desirable. Dr. R. was called, who suggested old man's pneumonia with referred pain, and on examination detected râles on the right side. I admitted the possibility, but demurred, as the pulse and respiration did not point that way, and three-quarters of a degree of fever was rather low for pneumonia. Having nothing else to base a diagnosis upon, that idea was held to during that day and up to the morning of the third day, when another consultation was held with Dr. R. Nothing was brought out this time, and time was relied upon to decide. In the meantime there were intermissions of freedom from pain, though it was gradually becoming less amenable to the Hoffman's anodyne, while it shifted somewhat from the epigas-

¹ Read before the Boston Society for Medical Improvement, April 15, 1895.

tric to the right hypochondriac and lumbar regions. A peculiar distress was complained of at intervals in reference to the lower part of the chest. The patient could not describe it, excepting that he felt like tearing something out that was gnawing. The patient ate with a relish and the kidneys and bowels acted well. This state of affairs continued until the fifth day, when all idea of pneumonia had to be abandoned; at this time tympanites and tenderness showed up in the right lumbar region, considerable gas passing from stomach and bowels. The idea of appendicitis was then to be considered and guessed at; and as I was becoming more puzzled than ever as to what I was contending with, Dr. H. was called, and after a careful survey of the entire field we could determine nothing and decided to continue the previous treatment. We so informed the family, and the case continued, the symptoms gradually growing worse and the pain and distress in the chest becoming harder to control. Repeated examinations of liver, chest and heart revealed nothing, excepting a dulness of the valvular sounds, something to be expected in the aged. The examination of the urine revealed nothing. So, absolutely in the dark as to what was the cause of so much trouble, the case continued to be handled as it had been, entirely upon the expectant plan.

The symptoms progressed from bad to worse until the seventh day, when I made up my mind that whatever the cause, death would be the result. I so informed the family, and said to them to call in any one they wished to; so Dr. H. was called again.

The pain and distress of the chest had now ceased to be amenable to the anodyne and was so strong and wearing that I had the trained nurse use inhalations of chloroform. Three ounces were used in the course of three or four hours, but with results almost negative.

Dr. H. then arrived; and the result of the second consultation was to tell the family the case was a puzzle and beyond us, that we fully agreed as to the result being death, and all we could do was to make that as easy as possible, to do which, the hypodermic morphia must be used.

About 5 p. m. the morphia was commenced, one-eighth of a grain, with the appropriate amount of atropia, being injected into the forearm; after waiting twenty minutes and there being no apparent relief, one-tenth of a grain more was injected; and again in twenty minutes one-tenth of a grain was used, when relief followed, and in about an hour the patient dosed off into a quiet sleep, which lasted about eight hours. He awoke quite bright and comfortable; but in an hour's time the pain returned with renewed vigor, and the distress of the chest was very bad. The trained nurse then injected morphia, having to use one-half grain before relief was obtained. Rest and some sleep followed for six hours, when the morphia was again resorted to. The patient at this time was weak and showed signs of rapid failure. Relief was obtained again by the use of nearly one-half grain of morphia, which lasted for only three hours, when rapid failure followed and death about 6 o'clock, the pain and distress disappearing without morphia an hour before death and the mind being clear up to a few minutes before death.

He was taken sick on the afternoon of the 6th, about 6 o'clock, and died about 6 o'clock on afternoon of the 14th, just eight days. During the sickness, especially during the first six days, there was a peculiar

nervous element in the case that is worth noting. On entering the house I could hear him groaning from pain; but when I entered the room and talked with him a few minutes, the pain and distress apparently disappeared, and he would feel comfortable and talk with me as if nothing was the trouble. After leaving the room, the pain and distress would return. This happened night or day when I went into the room. Especially marked was this remission of symptoms when Dr. H. was first called; so marked was the remission then, that there was apparently nothing the matter with the patient, and I was somewhat afraid that the doctor might think he had been called out from the city on a foolish errand. The last two days this peculiar action was not present.

I then asked for an autopsy upon the ground, that we did not know the cause of death, and that the result might be of benefit to suffering humanity.

Dr. W. F. Whitney made the autopsy, Dr. H. and I being present. The result was as follows:

Body of a well-developed old man. Autopsy eighteen hours after death. Rigor mortis well marked. Moderate lividity of dependent parts of the body.

Head not opened.

Lungs bound to the chest walls and diaphragm by scattered fibrous adhesions. Did not collapse fully. On section a very abundant red, frothy fluid flowed and could be squeezed from the cut surface. No solidification found.

Pericardium adherent over the greater part of the left ventricle by soft fibrinous adhesions readily torn away. When this was done a hole the size of a knitting-needle was found in the wall of the left ventricle from which dark fluid-blood oozed. This hole was situated about one-and-one-half inches from the apex and about the same distance from the septum. A little reddish serous fluid was found in the pericardial sac, but no free blood. A section through the wall of the left ventricle showed its walls to be thinned and softened towards the apex while at the base it was of normal thickness, but yellow and opaque. Over the thinned and softened portion was an adherent, more or less stratified, red-and-white thrombus which filled by estimate a third of the cavity of the ventricle. All of the cavities of the heart were distended with dark fluid-blood. The valves were normal.

The right coronary artery was normal, though slightly contracted shortly after leaving the aorta.

The left coronary artery was rigid and contracted about one inch from its origin, and there was a clot completely filling the vessel at this point and adherent to the walls.

The peritoneum was normal, and the abdominal viscera, beyond slight senile atrophy, presented nothing abnormal beyond marked venous engorgement.

The diagnosis is: Atheromatous degeneration of the coronary arteries; thrombosis of the left coronary artery; myomalacia cordis; with perforation and cardiac thrombosis; recent fibrinous pericarditis; edema of the lungs; old pleuritic adhesions; venous engorgement.

The thrombus and the pericardial adhesions seem to have been sufficient to have prevented the escape of any considerable amount of blood through the rupture.

The autopsy cleared up the cause of death, but not the symptoms for future application; and on looking up the literature of the subject I find nothing that would have helped out in making a diagnosis even had any suspicion existed as to the actual trouble. I will quote but little, as all authorities give about the same as to symptoms, etc., of ruptured heart.

Flint's "Practice of Medicine," in speaking of rupture of the heart, says: "This accident is generally incident to fatty degeneration. It occurs, however, as an effect of cardiac aneurism, or myocardiac abscess. It rarely happens in persons under seventy years of

age. Usually it causes instant or speedy death; but, if the perforation be small, it may be temporarily plugged by a clot, and life continue for hours and even days. I have known death to be delayed for six hours after the symptoms denoted the occurrence of the rupture. The symptoms are those which sudden compression of the heart by the accumulation of blood in the pericardium would be expected to produce, together with the loss of blood. In most cases, however, there is no time before death, for the observation of symptoms. Rupture has been repeatedly observed to occur in connection with a paroxysm of precordial pain resembling angina pectoris."

Quain says: "The symptoms of rupture of the heart may be described as those which are premonitory, and those which occur at the time of the accident. The former are such as indicate a diseased condition of the organ, namely, breathlessness on exertion, palpitation, more or less irregularity of pulse, and faintness. In some instances recorded these symptoms were so slight as hardly to attract attention; in others so severe as to cause intense suffering. In the majority of the cases noted in the table referred to, no mention is made of any preceding symptoms, death being sudden. In several cases it is distinctly stated that no symptoms preceded the fatal attack. The occurrence of the lesion itself, when the patient has lived long enough to describe the sensations, has always been marked by intense cardiac suffering, more or less distress in breathing, restlessness, rapid and irregular pulse, faintness, pallor, coldness of the skin, sometimes vomiting, and by various nervous symptoms. When life is prolonged beyond a few minutes, there may be more or less intermission in the progress of these symptoms; but the whole attack is marked by anguish more or less severe. The duration of the attack itself from the first fatal seizure varies remarkably. In 71 out of the 100 cases alluded to, death was sudden, occurring within one or two minutes. One patient, however, lived eight days; one, six days; one, three days; five lived over forty-eight hours; three lived under twenty-four hours; and 19 under twelve hours. . . . The special symptoms indicative of a fatal seizure are, in addition to those already mentioned, severe precordial pain, dyspnea, vomiting, cyanosis, pallor, loss of consciousness, and convulsions. . . . In the way of treatment of rupture of the heart little can be done. The patient's suffering may be relieved by hypodermic injection of morphia or by the use of other sedatives. Perfect rest should, if possible, be obtained."

In the case I am reporting the pulse was regular, full and strong during the entire period, excepting when in the state of collapse in which I found him nine hours after the seizure, and on the forenoon of the day of death when it showed some intermission. There was no precordial pain whatever; at first there was no dyspnea or any chest symptoms; the distress coming on the third day was not dyspnea, but seemed to be a pain low down in the chest, more on the right than left side; so low was this, I at times thought the diaphragm was in some way affected, rheumatism or rupture of the diaphragm entering my mind as a possible cause of the suffering. There was no vomiting after the first clearing of the stomach by an emetic. Cyanosis was only present when in the collapsed state, and that passed off in four hours. Pallor was only noticeable in the collapse. Loss of consciousness

was not present at any time. Convulsions were absent, but severe cramps in the gastrocnemius muscles bothered the patient at times after the second day; he was subject to these and had been for several years.

Taking a view of the symptoms as given in the quotations and contrasting them with those in the case I have described, it hardly seems possible that the same affection is referred to; and after carefully considering these symptoms, I see nothing that specially points to rupture of the heart more than to other affections not of the heart, in which we meet the same symptoms. So it would seem that a diagnosis of rupture of the heart cannot be made out with any certainty in any case during life. An autopsy gives the only positive diagnosis.

Clinical Department.

A CASE OF OPHTHALMOPLEGIA EXTERNA, BILATERAL, COMPLETE.¹

BY EDWIN E. JACK, M.D.,

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THE patient, a girl, two years of age, was first seen by me in February, at the infirmary, in the service of Dr. Standish. At that time both parents were living; they were and always had been well. Since then the father has died of pneumonia. There is no history on either side and there are no signs in the mother of tuberculosis or syphilis. There is one other child, which is perfectly well and there have been no miscarriages. The patient when born was perfectly healthy, no skin trouble of any kind has ever been noticed. She has recently been examined by Dr. J. J. Thomas, who found heart, lungs, etc., normal. I have found nothing abnormal in the urine.

The history of the case, as near as it can be got, is as follows. When six weeks old the child had "spasms" which were said by her physician to be due to "palpitation of the heart." At that time there were no eye symptoms. She seemed to be well in every way till last June, when she became cross and restless, cried at night a good deal, rolled the eyes around and at times looked cross-eyed. The mother stated that during or shortly after this sickness the left lid drooped and the left eye turned out. In August the child was seen by Dr. Bullard at the Children's Hospital, and with his kind permission the result of the examination at that time is given. Everything normal except the eyes. Left external strabismus, left partial ptosis, enlargement of left pupil.²

The present condition of the patient, which is the same as when first seen by me in February, is this, Partial ptosis both eyes. With the chin somewhat elevated in her habitual way, the right lid comes just to the upper periphery of iris, the left slightly below this. The occipito-frontalis is in almost constant contraction, arching the eyebrows. There are the characteristic retracted head and sleepy appearance of partial ptosis. An apparent very slight divergence is present; the globes are not unduly prominent. Right eye can be moved very slightly to the right, not at all

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² In a more recent examination by Dr. Bullard some enlarged glands behind the right ear and in the supraclavicular region were found.