

which should weaken the heart's impulse, or impair its rhythm, or cause a superfibrillation of the blood, would light it up into a serious and probably a fatal trouble.

Of the prognosis of this accident, little need be said. You will have gathered from the foregoing remarks that it is almost always a fatal trouble. When the heart itself, the pulmonary artery or the aorta, is the seat of embolism, the case is surely and quickly fatal.

Where the arteries of the extremities are involved, much will depend upon the amount of disease in the general system, which caused the trouble. The simple occlusion of one of the arteries of the extremities is not necessarily fatal, as witness our feats with the ligature. A few cases are on record of recovery. One in the *London Lancet* for Dec., 1868; the embolism following an attack of pleuro-pneumonia, and seated in the femoral artery. Gangrene took place, followed by amputation and slow recovery. Another case is reported in the *American Journal of Medical Sciences*, where recovery took place.

The symptoms of arterial embolism are, great pain and numbness of the affected parts, decrease of temperature, cessation of pulsation below the occlusion, and increase of action above. Where the pulmonary artery is involved, there is often great pain over the sternum; frightful dyspnoea, while upon auscultation the air is found to enter the lungs perfectly; a small and rapid pulse; coldness of the extremities and pallor and coldness of the face, and in the early stage, a wild look of terror.

The treatment must be almost exclusively prophylactic. In parturient females, especially if they have lost largely from flooding, a most rigid, horizontal position, and if inclined to syncope, the head to be lower than the body. In all cases of cardiac disease, this is especially to be enforced.

In endocarditis, the great object should be to saturate the system with an alkali as quickly as possible. It is proved that alkalies have the power to dissolve fibrine, or at least, alkaline blood holds it in solution. Besides curing the rheumatism upon which it depends, you give the heart the best chance to escape present or subsequent trouble. I have had no experience in the use of such remedies in phlebitis, but I cannot see why they should not be useful.

Where the accident has already occurred, if in an extremity, the same treatment as after ligature of the artery should be adopted, viz., perfect quiet, the limb to be wrapped in soft, carded cotton, and gentle,

artificial heat kept up, all pressure being removed. A case is reported by Dr. J. Forsyth Meigs, where the subclavian and popliteal arteries were both occluded, during convalescence from a severe attack of scarlet fever. The above treatment, with stimulants, brought the little patient through, and saved both limbs, the circulation seeking out collateral channels.

In those most distressing cases where the heart or pulmonary arteries are involved, are we to stand idle spectators of the agonizing scene? By no means. True, we cannot stay the march of the fell destroyer, but we can ease the patient into her final slumber.

Prof. Meigs, in relating his case, says, that in order to correct the dyspnoea, the irregular rhythmless effort, he stood before the patient and told her to imitate him. He inhaled at regular intervals about 150 cube inches of air, which she, keeping her eyes upon him, closely imitated. In a few moments she had acquired the habit, and from that time till her death had no more merely voluntary respirations. This was accomplishing much. As we are left here to study only the euthanasia, opiates, too, will suggest themselves.

#### PROBABLE CASE OF EMBOLISM OF THE SUBCLAVIAN ARTERY, RESULTING IN GANGRENE, SPONTANEOUS AMPUTATION AND RECOVERY.

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On the 2d of March, 1868, I was called to see Miss L., from whom I learned the following history:—The patient was an unmarried woman, aged 76; has been subjected during her whole life to the best hygienic influences, and consequently enjoys a state of health which is unexceptionable. It is a remarkable fact that she has never experienced a pain of any kind, with the exception of a slight toothache, never taken any drugs or applied for medical advice until her present illness. Parents were both healthy, her father living to the advanced age of 96. I ascertained that during the previous night she first perceived a sensation of numbness and pricking in the right hand and arm, with inability to raise it. There was entire loss of sensation and motion as far as the middle third. Pulse imperceptible as high as axilla, with marked diminution of temperature. Pulse in sound arm 80; some tenderness along the course of the vessels, but no pain. There was no evidence of any cardiac disturbance upon

auscultation, or any symptoms that indicated grave disturbance of the system generally. She had a good appetite and slept as well as usual.

My notes of the case are as follows:—  
March 4th.—There is now discoloration of hand and arm as far as middle third. Has passed a sleepless night, but still retains a good appetite. No pulsation below the subclavian. Pulse in sound arm 85. No pain, but a sensation of uneasiness and weakness. There is slight symptomatic fever, indicated by the pulse and flushing of the face. Left a bottle of McMunn's elixir, with directions to take twenty drops at bed time.

March 7th.—Discoloration extends as far as elbow; hand and wrist darker than at last visit, in fact, gangrenous. Still retains her appetite, and has slept well since taking opiate.

March 10th.—Arm less discolored about elbow, and temperature higher than during last visit. Is returning to its natural condition from above downward; has no pain. In other respects much the same as during previous visits.

March 13th.—Arm has returned to its natural condition from above downward as far as middle third, where a line of separation seems to be forming.

March 17th.—Line of demarcation is distinctly formed around middle third; the parts below are extremely foetid; large bullæ filled with foetid serum project between the muscles which are visible. The patient was now advised to have the arm amputated, and the benefits which would result from an early amputation duly enforced. She utterly refused to submit to the operation, being firmly convinced that the arm would recover its former vigor and strength. The rapid disappearance of the discoloration about the elbow, and an imaginary pricking in the fingers which had been dead from the first, seemed to strengthen her in this belief. Details of the case from this date seem uncalled for, as there have been but slight constitutional symptoms, retaining throughout the disease a good appetite, often doing her housework, and never occupying her bed during the day. During March 4th, it will be seen by reference to the notes, there was loss of sleep and slight symptomatic fever; with this exception she has been as well as usual. From March 17th to September the arm has been undergoing gradual decomposition. During the last of July, 1868, the bones became visible, and in September began to show the effects of ulceration. On Sunday,

the 4th of July, 1869, the patient awoke to find her arm in the bed beside her detached; the whole process being accomplished in one year and three months. The stump is well formed, having the appearance of a flap operation, and but for the protruding bones would speedily heal. The treatment was mostly local. Cotton bats were applied at first to retain the temperature of the parts, and the patient instructed to keep the arm in a situation to favor the circulation. Carbolic acid was freely used to correct the foetor, and later in the disease incisions were made to let out the collections of foetid fluid. Straps were applied to give support to the flabby tissues. Apprehending rapid prostration, bark and stimulus were given, and a nutritious diet enjoined. These were discontinued after a few weeks, as there was no apparent need of them. The fortunate termination of the case in recovery, together with the almost entire absence of constitutional symptoms, render the diagnosis obscure. That there was an obstruction of some kind in the subclavian artery is evident; but any attempts to explain what one of the various pathological conditions which are known to produce such results, obtained here, would with the slight evidence be impracticable. The suddenness of the attack, in connection with loss of motion and sensation, together with the fact that the system of the patient was admirably adapted to the formation of large quantities of blood, are in favor of embolism.

#### BROMIDE OF POTASSIUM IN TETANUS.

It has been my fortune during the past year to have two cases of general tetanus and one of marked trismus under my care at the City Hospital. The first occurred during the excessive heat of last July in a girl of 17, who had suffered a crushing injury of the foot, requiring Chopart's operation.

The treatment was by morphia, death resulting on the eighth day after the occurrence of the tetanic symptoms. This case was reported at length in the Boston Medical and Surgical Journal, Sept. 17, 1868.

The second case was as follows. A Portuguese carpenter, 44 years old, fell from a staging, May 12th, 1869, producing a fracture of the right thigh, in which crepitus was found at two points six inches apart, with much shortening before extension was applied. There was also a slight scalp