AN INAUGURAL DISSERTATION

ON

Acuto Pericarditis,

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Acute Pericarditis.

The pericardium is a fibro-serous membrane investing the heart and large blood vessels. It lies between the two pleura, conical in shape to base looking upwards, its apex downward. The pericardium is a serous membrane therefore it is thin, and is liable at any time to take on inflammation, which is termed pericarditis. This may be either acute or chronic, and of the acute form it is my province to treat. Inflammation of the pericardium is marked by a redness or congestion of the membrane, and by an exhalation of albuminous matter and a seropurulent effusion. But these characteristics are not so plain in the acute as they are in the chronic form of the disease.
Acute pericarditis is one of those diseases most difficult to diagnose, and there are few attended with more variable symptoms. This affection generally proves fatal either very early or at a more remote period. It is estimated by Matson that in nineteen cases out of twenty the disease proves fatal at a remote period. The symptoms are various and numerous, frequently there is in the onset of the disease a slight chill succeeded by pyrexia, or more frequently it is marked by faintness and sometimes even syncope. Fever is a very prominent symptom, always attending this disease, being high or mild according to the degree of inflammation. It usually begins the day
Patient laboring under a dry hacking cough, though this is not of very frequent occurrence unless the disease be complicated. Palpitations of the heart is another very prominent symptom. They are often very violent, coming on generally in the night, sometimes this is brought on by mental emotions or muscular exertion, and at others without any apparent cause. They generally occur in paroxysms. Dyspnoea is found to attend the majority of cases. When this does occur it is very distressing, it is a nervous phenomenon, in part connected with the paragems, and partly by pressure made on the lungs by the accumulated fluids in the pericardium. Sometimes this
is so severe that the patient is unable to rest in a horizontal posture, preferring to sit up leaning his body forward and to the left side. The respiration is hurried; generally it is about twice as fast as it is in the healthy state. There is great difficulty of speaking and deglutition. The pulse is generally, in the incipient stage, full and strong, and sometimes 220, after the fever is fully set in. The pulse ranges from 110 to 120 in a minute, being at the same time regular, but very irregular as the disease advances, beating very fast for a few strokes and then slow, occasionally with intervals. But these irregularities may be dependent on any exciting cause, such as quick motion, strong mental emotions, etc. When
The disease is a bout to terminate. The
pulse grew very feeble, often not to be
felt at all at the wrist, and at the
same time the heart appeared to be
acting very violently. This weakness
of the pulse is said to be owing to the
cramp-like condition of the heart by
the lymphatic effusion that is present
out during inflammation. The next,
last and I presume the least
important symptom is pain, for it is
very uncertain. This is produced by
pressure, percussion, and by deep
inspirations, coughing, etc. This pain ex-
tends to the left shoulder, often to the
elbow joint, where it stops short, but
frequently it extends as far down
as the wrist. But suppose all the
symptoms just enumerated are
wanting or are so deficient that we are unable to make a proper diagnosis? We must then have recourse to the stethoscope and percussion, by means of these expedients we are enabled to ascertain the different changes that are being brought to the pericardium by the peculiar sounds which are elicited. In inflammation of the pericardium as is the case in inflammation of all serous membranes there is more or less effusion, and when this effusion is considerable we can perceive a dull heavy sound on percussion, but we are not able in many cases and are three or four days to detect this sound, from the fact that there is but little effusion short of this time. In extreme cases the effusion
extends from the edge of the false ribs to near the clavicles, and occupies a space seventeen inches in height and nine across at the base of the heart. In such cases the diaphragm is greatly depressed and the stomach and liver often displaced. We find the respiratory sounds over the region of the heart to be absent, which are very distinct during health. The cardiac sound are also very indistinct which is caused by the intervention of liquids. The action of the heart of course is impeded, it can be felt to change its position, owing to its free movement in the liquid of the pericardium. If the hand be placed over this region of the heart a moving sensation will be perceived, this sensation is
produced by the displacement of the water by the action of the heart. This "undercutting motion," says Dr. Latham, "is often visible to the eye between the cartilages of the second and third or third and fourth ribs." When the effusion is copious, the heart is commonly pressed backward and upward and a little to the left, or that when the patient is on his back we can feel the heart behind or to the left of the nipple. Effusion sometimes causes the chest to bulge out in young patients owing to the great flexibility of the cartilages. I should have remarked that in the incipient stage of the disease the ventricles contract with greater force and energy. Consequently the sounds are louder. This is owing to the
Irritation given to the muscular tissue
from the inflamed membrane. There
is yet another act of signs: They are the out-
king sounds produced by the inflamed
surfaces coming in contact with each
other, coagulate lymph being effused.
The surface is irritated rough and
being made up in consequence of the
inflammation it is very evident that
a sound would be produced by
the friction of these surfaces. These
sounds of course must be regulated
by the smoothness of the surfaces
and the contraction of the heart, it
is termed the to and fro sound of
the heart, it is similar to that pro-
duced by passing into a piece of
wood or that by putting two mu-
surfaces together. Sometimes
like the file or nutmeg-grater. This
is a sound called the cracking-leather
sound which is described by Mecklin.
In the majority of cases the to and fro
sound is heard but for a few days,
then ceases and never returns, but
in some few instances it continues
as long as life lasts, it is not to be heard
very early in the disease, when there
is but little effusion the sound may
be sought near the base of the
heart and centre of the sternum,
as soon as the pericardium becomes
filled with effusion or adhesion takes
place this sound is no longer heard,
but as soon as the liquid is abso-
bled it may be heard again. This
is transient. No purses ever ad-
hire to each other, therefore we
can only hear it in the early and somewhat advanced stages of the disease. This disease has been known to run its course in forty-eight hours, but these are rare cases, generally it goes on in a moderate manner for several weeks without losing its acute form; frequently the disease under active treatment begins in a few days to yield, the fluid is absorbed and adhesions follow and the cure is effected in two or three weeks. When it is about to terminate fatally there is much weakness and oppression with great anxiety, the pulse grows quick, full and irregular, extremities become cold, delirium often comes on and the patient dies in convulsions; death very often comes
on very suddenly without any premonition whatever. The first thing we observe, as regards the anatomical character of pericarditis, is redness or congestion of the pericardium, which may exist in different forms as in patches or streaks of different shapes and sizes, also by the exhalation of albuminous matter and a serum effusion. The quantity of effusion is variable, sometimes not exceeding three or four ounces, at others amounting to as many pounds. This fluid is of yellowish or color, oftentimes it is of a red or orangy-red color, at others it is lipoid and colorless, in more advanced stages it is purulent, in some instances we find upon the surface of the membrane
Spots of blood scattered irregularly over. In the majority of cases we find the false membrane to be of considerable thickness, which is characteristic of very high inflammation of the pericardium. On removing this false membrane there is no redness to be seen on the tricus, this is caused on account from the membrane having relieved itself of this high inflammatory state by an exhalation of this albuminous substance which goes to form the false membrane. This membrane is rough and irregular, it has been compared to the honey-comb, to the inner surface of the second stomach of the calf, its appearance is similar to that made by the separation of two boards which
had been previously coated with butter. In patients who have died of pericarditis, the heart is found to have undergone some changes in regard to its color, consistency, size etc. In diagnosing a case of pericarditis we must remember that there are several diseases with which it may be confounded. The most common of these are pulmonary pneumonia and endocarditis, it is readily distinguished from the first by the absence of the friction sound produced by the heart, and the peculiar dull sound changing its position as the patient moves about. From the second, by the thick,黏痰, the bronchial resonance to which attends pneumonia. The
Third, by the deep hollow sound, dull
ness on percussion, prominence on
the region of the heart, which are
very prominent symptoms of en-
carditis. The prognosis is generally
favourable, for it is in the majority
of cases a mild disease. The cause
of pericarditis are those which com-
monly excite internal inflammations
such as exposure to cold, over-stimu-
lation &c., it is not unfrequently the
result of inflammatory rheumatism.
Within the last few months my late
capt. Dr. Wallace Esq. of Manchester
has had two cases of rheumatic
pericarditis, which I am permitted
to report. The first was a lady of
sometime eleven years of age, of
fair complexion and delicate frame.
He was first attacked with rheumatism of the larger joints, changing its location for a time from one joint to another, when of a sudden metastasis of the disease to the investing membrane of the heart took place, accompanied with violent pain, great dyspnea, and a dry cough. Active antiphlogistic remedies were resorted to with apparent relief for a time, but a violent throng of the heart and Carotid arteries continued, with a short and hurried breathing. This state of things continued for some six or eight weeks, when anasarca of the extremities began to exhibit itself. This gradually increased, the breathing became more difficult, with a
constant sensation of suffocation in a recumbent posture, after great suffering the little fellow finally succumbed to the disease in the early stages of the disease. The tone and force of the heart as described by Mather was distinctly heard. This ceased before the disease terminated, evidently indicating that adhesions of the pericardium to the heart had taken place. A post mortem examination of this case could not be obtained which I greatly regret. The second case was a mulatto boy named Reuben a little over twenty years of age, of rather slender frame and light blue eyes, he was attacked with inflammatory rheumatism of the
Knee and ankle joints, his disease was brought on by great exposure and irregularities, being employed as a servant at an eating house on our railroad, the trains arriving at an
timely hour. If the night after the disease continued for a short time perhaps a week, it very quelling left the joints and was transferred to the pericardium accompanied with violent pain in that region. The most active anti-pyretic remedies were had recourse to, such as opium and frequent blood-letting, perspiration, cupping, blistering and mercury. Pulsed to petzalism, this course seemed for a time to promise success, but it was observed, not with standing the active plethora, that
There was at all times a violent thrashing of the heart and carotids, to allay this action. Doses of digitalis and nitro were administered, but with temporary effect. Things went on from week to week for five or six weeks when an anasarca, an effusion began to take place. The difficulty of breathing became so great that he could not lie down at all, but was compelled to be propped up on a table, and this condition he continued for several days, when if a sudden life became extinct, the head and ground was very distinct early in the disease, finally ceased.

Post mortem examination, the carotids were found to be thrust...
forward entirely from this articulating surfaces, occasioned by the violent efforts of respiration. The muscles were in a most remarkable relaxed condition, although the body had been dead some six or eight hours. They continued as limber as though he was in a state of rigor mortis. At the time of his interment which was a week after his death, on elevating the thoracic pericardium and heart were found to be completely aglutinated at all points. The union was so firm that it could not be separated. Upon cutting into the ventricles they were found to be enormously enlarged or distended with very black coagulated blood.
The distance of Thix jelly. This was poured out in masses to the amount of a quart or more. The aorta tendinae were put upon the stretch and twisted like bow strings in the cavity. The auricles were empty but somewhat enlarged. The fibers of the heart were firm and did not yield when pressed by the finger. The lobes of the lungs were very much reduced in size. The right lobe was adherent in many places to the pleura the attachment being quite firm. There was about one quart of serum effused into the right cavity of the chest. It yet remains for me to give the treatment of this disease. Blessed I believe is set down as being the most important and power-
full remedy in the incipient stage, although this be so great a remedy it may be and is too often carried to excess, therefore it is necessary that we should use some caution in the employment of the lancet, too much blood taken from the economy callistetically stimulates the heart. The quantity to be drawn is regulated by the habit and condition of the patient, in the commencement of the disease we may bleed if the patient be of full habit to the amount of twelve to twenty-four ounces, to be repeated three or four times during the three or four succeeding days but not so much as the first time. Local bleeding by cups & leeches over the region of
The heart proves beneficial, the patient should be thoroughly purged with Colonel or some other active cathartic followed in six or eight hours by Castor Oil or Evaporated Salts. After the general excitement has been reduced by bleeding and purging we should then resort to mercury for the purpose of approaching phthisis, galium is common here in conjunction with mercury for two reasons. The one is that it prevents it from running off by the jewels, the other, that it is a measure restrains the action of the heart. Blisters are very efficacious after effusion has taken place, applied over the region of the precordial pulse should be controlled by.
digitalis, every thing that has a tendency to excite the general system should be avoided. Cooling beverages if desired by the patient may be allowed throughout the whole course of the disease, by these means we are generally able to effect a cure.