Upon endocarditis, especially its illiterate form.

April 1881

Joshua J. Cox

Afroditéan

(?)
All (little as it is) contained in this treatise, with the matter indicated below excepted, has been done by me — I have not within recent years personally treated a case of Esocarii. Nevertheless, I have in every case acknowledged in this thesis the page and volume of the work from which I have derived information, giving the author's name —

To D. J. Hadden I am indebted for the notes and charts of the cases, mentioned as Cases I, II, III.

Within I append my signature

John N. Cox

Eccles April 24th, 1881
Endocarditis

Inflammation of the lining membrane of the heart is well worthy the careful study of the medical practitioner. Giving rise, as it does, to a great proportion of the cases of tubular defect in the heart, and thus leading either at once or after some time, to conditions of great importance both locally and generally, occurring during the course of, or in connection from many of the acute diseases, eruptive fever, rheumatism, &c., occasionally showing itself towards the end of pregnancy, or during the puerperal period in one of its most fatal types, and at other times arising under conditions which puzzle physicians to give any reason for its appearance; while in the case of the Acute Ulcerating Endocarditis, the mere diagnosis at first is a matter of difficulty of physicians of wisdom and experience, it will at once be granted that we have in the various forms under which inflammation of the lining membrane of the heart may make its appearance matters which weigh heavily in diagnosis, prognosis and treatment.
Trouseau (Sydenham Society's translator of his lectures, vol. iv. pp. 456.) mentions that in the 'Letters of Morgagni and the Epistulae of Bonet,' notice is taken of the signs, both clinical and post mortem, of pericarditis and endocarditis, occurring in connection with rheumatic fever. "All the clinical and anatomical facts were seen, but their relationship was not recognized, so that the observation of the facts remained a dead letter."

According to Jaccoud (Dictionnaire de Médecine et de Chirurgie Pratiques, Tome Troisième, p. 237), David Pilette (in 1788) had noted the relation between rheumatism and heart disease, describing it under the name of "Rheumatism of the heart." After him came Baillie (1797), Olier (1800), Napoleone (1803), Dundas (1804), Bells (1813). All of these authors have noted more particularly the existence of pericarditis in such cases, although the last named noted of "nasty vegetations attached on the interior surface of the left heart." Krapf published in 1815 at Berlin his work upon Affections of the Heart, in which he showed the close connection between heart disease and rheumatism, and indicated the inflammatory origin of many of the lesions resulting from such cases.

Jaccoud states that this author "recognized besides, the influence of these lesions upon the functions of the heart, as well as upon the whole organism, and attempted to trace its symptomaticology in the living; but the imperfection of diagnosis rendered..."
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**Chart: Temperature vs. Time**

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**Chart: Pulse vs. Time**

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**Notes:**
- Treatment: *TEXT *
- Observations: *TEXT *
this attempt failed until the day when
the immortal discovery of auscultation came
to cause it to bear fruit—"

To Bouillaud must undoubtedly belong the
honour, and in this all the subsequent writers
whom I have consulted agree, of having given the
first complete account of typhoid endocarditis, so far
as the knowledge of that day went. The first
edition of his "Traité clinique des maladies du cœur"
appeared in 1835. Traversau notes that in
Bouillaud's edition of the same work, published
in 1841, it is mentioned that patients have died
"with typhoid symptoms, the consequence
of gangrenous endocarditis."

However, it was reserved for a British physician,
Stenhouse Kirkle, to show the connection between
ulcerative inflammation of the lining membrane
of the heart and the various serious results
which take place in the system at large during
the course of this disease. He pointed out that
the sequelae detached from the right side of the heart
in ulcerative endocarditis, affected mostly in
the vessels of the lungs, while when the left-
auricle and ventricles, or their valves, were implicated
the effects were to be found in the course of
the systemic circulation — viz., semi-paralysis
from interference with middle cerebral artery,
blocking up of arteries supplying the spleen,
kidney, etc., and the consequent symptoms.
Like Bouillaud he ascribed the typhoid symptoms
in some cases to the heart condition, but
he is more decided in his views upon the
causes of the typhoid symptoms — which he
as said a few lines previous to this, thinks are
due to the effects when the system at large of
the peculiar inflammatory condition of the lining membrane of the heart, while Bridier, quoted by Jaccard in the article I have already referred to (Nouveau Dict. de Med. et de Chirurgie pratiques, Tome Troisième, p. 237), says: "Nous lui donnerons le nom d'endocardite typhoïde, ayant bien soin de prévenir nos lecteurs que par cette dénomination, nous entendons uniquement désigner une endocardite modifiée par la coincidence avec un état typhoïde, et non une endocardite qui donne lieu par elle-même, à des phénomènes typhoïdes."

In 1854, Dr. J.J. Simpson, of Edinburgh, brought out his notes upon mural endocarditis. The appearance of Vicknow's work upon this subject, in 1856, and again in 1862, threw much light upon what had hitherto been left dark. I regret that I have not been able to refer his works in the original—(Vicknow).

Since Vicknow's the observations were brought-out there have been many and important contributions to our knowledge of this difficult subject. The various systematic works upon "Practise of Medicine" have treated more especially of Endocarditis in connection with Rheumatic Fever, and other general febrile or traumatic conditions. Writers upon "Heart Disease" have devoted themselves more particularly to the local, and general bodily effects induced by affection of the Endocardial membrane; while most of the recent papers upon "Ulcerative Endocarditis" are to be found in the Journals and Magazines of our own and other countries—

Some very valuable contributions to our knowledge of the condition of the heart in...
pregnant females have been made by both German and French observers, and Dr. Angus Macdonald, Edinburgh, has written within late years a most useful and scientific work upon "The Heart during pregnancy". In this book he goes most carefully into the complications which may arise during pregnancy, labour, and the puerperal period, owing to the presence of heart disease.

Recent German writers (quoted, if my memory serve me aright in this, by Dr. Angus Macdonald) have mentioned a peculiarly insidious form of endo-carditis which comes when young girls at puberty.

In renal disease of the more chronic form, most interesting secondary changes take place in the heart and general circulatory system.

I will consider first the more common forms of endo-carditis, more properly should sub-divisions, as one class of cases of endo-carditis is very closely allied to its neighbour.
Pathological Anatomy.

Most authorities of the present day agree that probably no free exudation is formed on the endocardium. The vitreous humor gives rise to inflammation of the pericardium, not exudation, i.e., it originates in the deeper layers of the tissue, but more superficially. The elementary portions of the endocardium become further through invagination with a liquid corresponding chemically to mucin. Great and rapid proliferation of cells, growth takes place with a tendency to speedy transformation into connective tissue. Is exudation takes place between the tissue elements. The rapid cell growth development causes the appearance of small villous processes on the free surface of the endocardium—the so-called vegetations, which are met with so frequently upon the cardiac valves. These vegetations vary very much in size. Deposition of fibrin from the blood adheres places where there vili and vegetations, causing them to look much larger than they really are. In many cases, this is due to separation of vessels of this deposited fibrin, and their subsequent extension into removal by the rapid blood current. give rise to the embolic process referred to in the earlier part of this paper. Where the "embolus" consists only of fibrin, and what I may be allowed to call other "normal" constituents, the effect when the tissue supplied by the vessel in which it has been arrested, are simply those of "plugging of a vessel" and consequent interference with the
Pathological Anatomy

Blood-supply within that particular area of distribution, but if the embolus be septic in its powers, or perhaps more correctly infective, the symptoms are those of metastatic abscess. Fortunately such cases are more rarely met with, especially in septic aetiology.

Sometimes the tendency of the endocardial inflammation is toward the increased formation of these soft vegetations which are mainly composed of connective tissues.

Again, the development of these connective tissues leads more to the contraction of the valves than to the formation of vegetations. And here atheroma, in persons of advanced years, often accompanies the contracting process. The laying here of an atheromatous plaque often plays the role of a destruction of the covering coat, to a pseudo-vegetation of the lining membrane of the heart, a condition which differs very much from the true ulceration which is owing to the extremely rapid proliferation of cell-growth causing softening and breaking up of the ulceration.

In some cases Micro- cocci have been detected in the ulcerated patches of the endocardium and have been credited by some observers with being the origin of the patent disease.

The following are some of the local results of leucocytosis of the subendocardium.

The destruction of the attachment of valves, the base of the valve-flaps, lowering of the Chordae tendineae from the valves, perforation of the valves, erosion of the valvulus cardium and consequent formation of acute tubular aneurysms; the same may occur on the...
Pathological Anatomy

The heart, when leading to so-called "partial cardiac aneurysms". Whenever the surface of the membrane lining the heart becomes ragged or perforated the blood tends to deposit its fibrine, and the embolic process is readily set up.

Perforation of the septum has been known to occur in ulcerating sub-endocarditis.

In ordinary acute sub-endocarditis, as distinguished from the "Ulcerating acute sub-endocarditis", a breach sometimes takes place in the sub-endocardial lining owing to softening and destruction of the new cell growths.

Etiology

Endocarditis may be both primary in its origin, or may occur as secondary because inflammation in the neighbouring tissues, or as a manifestation of some constitutional mischief — i.e. Rheumatism, measles, etc.

Traumatic Endocarditis is very rare indeed. In general wounds of the heart prove fatal before any sub-endocarditic process can be developed.

Scherer's work on "Wounds of the Heart", in Vol. III of Dremec's Cyclopaedia of Medicine, gives some very interesting information upon injury of the heart.

Jaccoud shows at page 240 of the third vol. of the Roman dictionary de l'Art, that various writers have seen cases of sub-endocarditis following traumata.
The form of acute endocarditis, which some authors have held may arise 'primarily' from cold, most probably occurs only in individuals who from various causes, debauchery, poor living, old-standing debility, etc., have had their strength reduced to the minimum.

Many writers do not admit that primary acute endocarditis can be caused by the entrance into the body of a healthy individual, although they would grant the possibility of the causation of a pleuritis in this way.

Secondary endocarditis

is much more common either occurring during the course, yield of, or subsequent to, general conditions such as typhoid, measles, etc., or by spreading from a bronchitis, or peri-carditis - pneumonia, etc.

Rheumatic fever produces the greatest number of cases of endocarditis. But authors have varied widely in the estimates they have formed as to the frequency of the complication of rheumatic fever with heart mischief.

On this point, Dr. [name] says (Lumsden's Encyclopaedia vol. 11, 49) "Bouillaard, who, as I have already mentioned, was very free with his diagnosis of rheumatic fever, found cardiac inflammation in 64 out of 74 severe cases of polyarthritis, and in only one out of 40 mild cases. Budd met with it in 21 out of 43 cases (48.3 per cent); Fuller in 7 out of 39 (17.9 per cent); Wundtbeck in 26.3 per cent; T. Vagel of Kiel, in barely 50 cases; Reher in 23.6 per cent; Dickinson's experience shows that "48 cases were treated with alkalies, and among them only a single instance of cardiac mischief occurred." Senator's experience gave 10.7 per cent in private practice.
In connection with the disease of Rheumatism, and particularly with the form of it known as Rheumatism acute, it is worth while to refer to the following statement in Peripheral Nervous System Differing (McLain's) "Rheumatism as an Acute Nervous Disease..."

Other cases of acute rheumatic fever have been described, particularly in the United States. It is not surprising that a case such as the one described in this publication should occur. It is significant that in such cases the patient has been subjected to emotional stress or physical strain...
It cannot be doubted that true Rheumatic Fever does occur in the pregnant human race in the puerperal period. But I think these cases are not purely rheumatic in their nature.
Rheumatic Fever Cont’d.

To my mind his cases do not bear
his conclusions, and the evidence he brings
forward in support of his views — daily notes
of his cases, temperature, and pulse charts,
post-mortem examinations, lead one to
believe that Duingard is in the right
in calling such symptoms in the pericardium
“Rheumatoid Manifestations of the Pericardial
Condition, and of Infections Pericardium.”

An abstract of this paper, originally published
in the Gazette Médicale de Paris No. 41, 45, 47, 51
for 1872, can be seen in the half-yearly abstract

Here he shows the difference between the
Arthritis in Rheumatism and that in the
Infections Pericardium, and also in the character
and course of the disease in both conditions.

Bright’s disease according to Aitkin (vol. i. p. 603)
and Hühn (that book of Practical Medicine, vol.
p. 330) comes next to Rheumatic Fever in the liability
to be complicated with Endo-carditis.

Kendall is of opinion that Measles more
often comes with Endo-carditis than any
other disease, except Rheumatic Fever, causes
Endo-carditis.

All the eruptive diseases may be complicated
with Endo-carditis. It has been seen along
with Diptheria, & After Typhoid, Small-
PoX., etc. Syphilis, &c.

Hühn and Aitkin (loc. cit.) agree with
Gillies and Hühn that “it seems not-
improbable that the irritant which acts up
The inflammation, acting mainly on the tissue of the narrow passages through the heart - its valves and sinuses - is the superheated blood of the fever patient, which marks the intensity of the fever.

Moreover, the altered condition of the blood, owing to the constitutional state during the eruptive fever, is also probably a factor of power in the production of 

Endocarditis may sometimes be developed in a very insidious manner; especially in connection with that form sometimes noticed in young females at puberty, and also in elderly patients who have indulged freely and long in alcohol, or who have become victims of syphilis or gonorrhea. Chronic rheumatism also plays a part here, especially in dock labourers, mariners, or others whose occupation often causes them to keep long in water — and cold.

Once attended a young lady who was seized very suddenly with Chorea. Before dysuria made its appearance, the following quickly by acute rheumatism, during the progress of which the Chorea vanished, only to re-appear upon the subsidence of the rheumatic fever.

In chronic renal affections a secondary form of endocarditis is developed owing probably to increased work which is thrown upon the heart caused by the vasaarrecta and the valvular apparatus in consequence of the changes in the ultimate vessels in the general circulation — or in consequence of the loaded blood (Dr. Johnstone). Every nurse, no matter what, ascribes considerable influence to this effect.
of strain from one cause (his paper in Brit. Med. Journal 1873) "strain in its relation to the circulatory organs". There is also much pleasant and profitable matter in his larger work in the chapter upon "Combined Heart and Kidney Disease". In which his opinions agree in the main with our well-known Edinburgh and London authorities upon kidney disease.

The same influence of strain noted above can be seen to be gradually brought to bear upon the heart in a secondary manner - in the case of general arterial sclerosis, with or without nephritis.

While Quenneke (loc. cit.) shows that in addition to the mechanical effects of strain, "sclerosis and calcification lead to stenosis as insufficiency of the arterial valves, more rarely of the ventricular valves, with all the results that flow from such lesions. But there are other reasons why familiar cardiac disease should not rarely coexist with arterial sclerosis, because the valves are exposed to increased pressure as well as the cardiac muscle, and because the causes of endocarditis and endarteritis (infective) are all the same.

Septicemia from the various ways in which it may originate - after delivery, in surgical cases in dysentery, &c., &c., often give rise to a fatal form of subcarditis, in which the embolia from the heart are possessed of "infective" properties, leading, among other results, to abscesses in the septa causing the systemic circulation and also to many other lesions, terms mischief in the lungs from
the emboli leading to secondary abscess, with, when they become lodged in vessels near the periphery of the lung, consequent pleuritis and even pneumothorax from perforation.

Chronic lung abscess may lead to increased connective-tissue development in the cardiac valves. This is scarcely deserving of the name of endo-carditis, and perhaps would be more properly designated as an hypertrophy from the strain owing to the altered vascular conditions in the pulmonary cycle.

Old tuberculous lesions may serve as the seat for the development of new endo-carditic mischief, Perhaps this explains the form of tubercular disease which seems to increase during successive pregnancies.

Sex does not influence the appearance of endo-carditis.

Age - From what has been written in this paper previously it can be gathered that the ability to endocarditis, as well as its effects, vary very much with the years of the patient.

In children many cases of acute endo-
obstetric patients, particularly those with chronic diseases, are at risk of developing affluence. This is due to the fact that females are more likely to develop complications of pregnancy. The incidence of maternal death is higher among women who are pregnant and have a history of complications. The prognosis and outcome are often affected by the patient's general health status. The delivery rate and the occurrence of complications are crucial in determining the patient's recovery. The newborn's health and survival are also significantly influenced by the mother's condition.
Symptoms.

Should the onset of endo-carditis occur in the course of some acute disease, and should the heart of the attack be borne by the valves, we have in addition to physical signs - murmurs, increase in percussion dulness &c. - confined to the region of the examination of the region of the heart - most probably an evening rise of temperature and pulse above the ordinary height in the course of the disease under consideration. While the endo-carditis is a complication - specially should this draw the attention of the physician to the heart in rheumatic fever, although here the auscultation of the heart should be a routine duty. While in the literature fences the onset of endo-carditis may be first indicated by the physician noting that the temperature of the patient is not following the typical course. However, some cases come on in a latent manner in spite of careful and close examination by the medical attendant - I mean that early detection of the disease seems to be sometimes almost impossible.

Larain (Études de Médecine Clinique, Vol 77, 1884)
shows by charts of temperature and pulse in a case of acute Pneumonia with retro-
pericarditis, that the temperature may remain during the progress of the case at a normality low level, and that the irregularity in the pulse—running up without much evident cause from 76 per minute one morning, to 162 per minute the next morning—was evidently due to the pericardial complication—After the pericardium regained a better condition, the tubular murmur, and the story betrayed by the Ehringsmeyer, indicates the inflammation while had risen after the pericardium.

In so-called 'primary' cases the temperature is at the highest in the two initial days, afterwards the fever will likely assume the remittent type—

In nearly all cases of retro-pericarditis most patients will admit when being questioned that they have a feeling of oppression about the heart—although seldom is this mentioned spontaneously.

In severe cases the oppression is extreme—Here also the action of the heart is forcible and exaggerated, the pulse, full and bounding, and a pericardial thrill can sometimes be felt in the heart—region. In such cases that the behavior of the thermometer and Ehringsmeyer may be expected the more characteristic—

In mild cases, and when the disease occurs during the course of some other
Symptoms

ailment we may receive no indication from the patient, of the development of this mischief, while careful physical examination with stethoscope, and x-ray fluoroscope may be required to detect its presence.

Dyspnoea. May, or may not, be present. In cases where the "Cheyne-Stokes" respiration is noticed, the prognosis (i.e., respiratory) is very bad, but it cannot be used so much as a means of diagnosis of weak heart as was at first thought.

Phyrgmograph. This instrument should be more frequently used than is common among medical practitioners.

Chronic Eono-carditis.

In such cases an enumeration of the symptoms would require a separate attention to be paid in the letter to "Chronic Heart Disease," which would lead me far beyond the limits of an ordinary treatise; and as I wish to pay considerable attention hereafter to the "Ulcereating Endo-carditis," I will only say here that, the various secondary conditions affect the heart and body at large, which follow in the wake of "Pulmonary disease," are in great measure their existence to Chronic Eono-carditis, and may therefore in many
instances may be taken as symptoms of chronic endo-carditis in the various forms before described.

**Symptoms**

**Treatment**

With few exceptions, the treatment of acute endo-carditis is lost in the treatment of the general condition to which it owes its origin.

Rest is above all the grand object to be aimed at in the therapy of heart inflammation. Symptoms should be met as they arise.

In chronic endo-carditis, here the indications are to prevent, as far as is possible, the tendency towards degeneration of the muscular walls of the heart, to limit as best we may the spread of vascular mischief, and in every way possible to abate "the tendency towards death", until the onward march of absolute physical laws bring about the end. By careful treatment, life can often be prolonged and made tolerably comfortable.
"Acute Ulcerative Endocarditis."

I would give here notes of three cases of this disease, after which I shall enter more into detail into the peculiarities of this rare manifestation of subendothelial inflammation.

Case I.

Martha, aged 24 years, has been in delicate health since she was fourteen years of age, when she began to menstruate.

At the age of sixteen she had her first attack of rheumatic fever, and it was four months thereafter before she could again milk properly. The heart was much affected.

When she was eighteen years of age she was in bed four months from an attack of acute rheumatism. The heart was affected during this attack also, and has never been right since, although she has not again been confined bed through illness. She has menstruated regularly, and has had for some time bleeding from the gums and a slight extent.

On March 6th, 1878, she claimed having sottoea from a chill of rain. She thought it was only a bad bilious attack; was sick and fevered at first, and had some pains about the small joints with increase of palpitation.

On April 11th, the 39th day from the rigor, I found her downstairs. She had never remained in bed during the day, but had been about the house, and out of doors also.
On examination. The skin was pale and flabby looking, the lips and tongue having a little color. The skin was moist. The Currus could be seen beating violently and as she spoke the violence of the heart's action could be observed as affecting the speech.

She became breathless on exertion, but had no cough. She complained of pain and an oppressed feeling over the cardiac region.

On auscultation the lungs were healthy. Respiration was laboured. The heart action was violent. The apex beat extended over a large area from inside the left nipple to near the axillary line. The cardiac dullness was increased at the apex a soft systolic murmur is heard; at the base a harsh systolic murmur, and over the middle of the sternum a double bruit.

The pulse was small and soft, about 130 per minute. The temperature was about 2° higher at night than in the morning. The appetite was moderate; the tongue was not coated and of a brownish hue; the bowels were rather confused. The rest fairly well during the night, occasionally perspiring profusely. She has felt great pain in the head since her illness began.

Such was her state when she came under my care, and from day to day, very little change in her symptoms took place.
Her gums continued to bleed at times -

On April 19th she had a pain over the left side of the head, and when her eyes were shut she fancied she saw strange things.

On April 20th she was sick, vomiting bile and phlegm. She was a little better on April 21st, but felt faint.

When May 2nd she was up for between three and four hours, and at five o'clock p.m. felt queer about the mouth, as if she could not use the tongue.

The left arm also was numb and weak.

May 3rd - I found her with left hemiplegia. The tongue points to the left in protrusion. Speech is indistinct and swallowing is difficult. Sensibility is impaired upon both cheeks. She feels a prick less often on the left hand than the right. The left arm feels numb and also the left leg up to the middle of the thigh. She has pain over the forehead and not on the vertex. The diastolic murmur can be now here heard, but a sharp second sound. Pulses are equal.

The breath smells disagreeably.

May 4th.

She died all night. The double bruit is again audible. She is kept on the right side, and the calf feels tender late upon.

May 5th.

She slept all night. The left side...


Case I.

of the face has been twitching this morning. In the afternoon the left side of face and left arm were violently convulsed. When seen at 8 P.M. the hand was being twitched to the ulnar side, but soon ceased. At night there was no twitching. The arm could not be moved by the will, but in jerking the hand the arm went up with a jerk evidently quite involuntarily. Paralysis has spread all over the leg, and she can still move it. The eardrum fluids. The heart's action is more violent.

May 6th

At midnight last night the whole left side was twitching, and all through the night the face has twitched. To day I saw the hand twitching and it was carried to the radial side.

The tongue is black, but moist. The bowels have been rather loose for a day or two, but are better now. The pupils are dilated. She is quite intelligent. Urine has been passed in bed.

May 7th

Dosed in the night about five o'clock A.M. the right side of the face and the right hand and leg twitched for a short time as the left had done. She complained of pain in the left leg. She can use the right side well enough.
Ulcerative Endocardial

Case I. She is troubled with tenesmus—Stools trickle out of her month—May 8th

Had a quiet night and slept well—Left hand sweating—She cannot feel my hand cold on her right hand, but she does feel it cold upon her right.

Pain in left arm and leg—Leg is cold—May 9th

Asleep in the night. No twitching. She moans now. Pain in right arm and left leg. The pressure of the stethoscope hurt the chest and the left hand gave a jerk to remove it—May 10th

Lethargy. Morphine—Coughs when she tries to swallow anything—Both legs and right hand are painful—Toes are dry and black—May 11th. Lethargy. Morphine—The right leg was twitching today. The right side is painful. Even to touch. Back pain—May 12th

Lethargy. Morphine—She lies with her eyes three half closed, and head no one. Eyelids twitch simultaneously. Lenox running she began to pick up the bedclothes with her right hand—May 13th.

She lies with mouth open.
Ulcerating Endocarditis

Case I.

and eyes partially do so. Other no notice.
Eyelids twitch twitch and eye ball move
from side to side. Resists more in with
inspiration and not with expiration
Left conjunctiva a little was insensitive.
Right not so. She could not swallow.

May 14th

She lay quietly all night—
Sweating much— and died almost
imperceptibly at 4:20 P.M.

1/5/78. (m) .

12 1/2. 73
9 1/2. 03
3 1/2. 97
1. 89

1/8/78. (returning)

1 1/2. 103
1 7/8. 793
Case II

Mr. W.Y., aged 30 years, consulted me at my house on June 25th, 1879. I saw him about one o'clock, and with such violent cardiac action, going about His carotids were pulsating very nicely, and his chest betrayed the force and rapid action of his heart. On expressing my surprise at his being well, he assured me there was nothing personal in his condition, only he thought he was somewhat bilious, and had called to consult me.

He had an attack of Rheumatic Fever about twenty-two years of age, and ever since then had had violent palpitation. He had occasionally consulted the family medical attendant about his heart, since his attack, but had not had any improvement. He has frequently been bilious and out of sorts, but no change, and especially a feeling of cold, has set him right. For the past three months he has felt out of sorts, being troubled with pains in his joints. One day in the fingers, another day in the toes or other large joints, but it never remained long in one place, nor gave him much concern.
Ulcerate Endocarditis

Case II

He slept fairly well at nights, perspiring profusely. He also fell at times, as if cold water was running down his back. His appetite was poor. His bowels rather confined, and the urine was free from Albumen. He had no cough, nor any abnormal lung sounds. The heart's dulness was four inches by four inches. The apex beat was lower than normal and to the left of the nipple, and its course could be traced through the parietes. The skin seemed to move from left to right with it.

On auscultation on the back a simple systolic murmur was heard, at the base a single diastolic murmur, and on the left of the middle of the sternum a double murmur. On the right side of the upper part of the sternum a double sound like friction was heard synchronous with the heart's action. Pulse 120. See tracing.

The action of the case was severe. The patient had every stroke of the heart. I had great difficulty in persuading him to stay in bed. Having succeeded in doing so, I found that his temperature was tolerable, about the morning and evening record.

There was little change in his state from day to day. The chart shows the course of the temperature, and pulse, and the principal medicinal treatment adopted.

On July 12th he was downstairs for two hours and fell as if cold water was being poured down his back.
Mycotic Endocarditis

Case II.

July 15th. He was sitting to-day when his heart seemed to stop, then went slowly, and down to its usual speed.

July 18th. At 10 M. he fell chilly all down the left side.

July 19th. There was evidence of effusion into both pleura at the base anteriorly, and in front on the right side at the 3rd rib there was heard a palpable and moist rale, and for the first time he complained of shortness of breath.

July 22nd. The dullness at the bases posteriorly had disappeared, and all over the right back moist rales were heard with sibilans.

July 24th. The best respiration was 20 (alsto).

Propose that the bed had to be changed.

July 25th. The bed diarrhea, the bowels having been constipated. His tongue continues clean and his appetite good.

Aug. 4th. The pulse varied in fulness.

Aug. 23rd. The pulse was intermittent.

Aug. 30th. The face especially about the eyelids was puffy, and a trace of Albumen was found in the urine.

September 2nd. Most rales were heard in both lungs. Albumen was in the urine, and diarrhea came on, which continued until Sept. 6th.

On Sept. 10th. I saw him after a month's absence, and found his aspect much changed for the worse. The lower three-fourths of both
Ulcerative Endocarditis

Case II. Lungs anteriorly and posteriorly were full of moist and bubulant sounds. There was a considerable amount of yellow expectoration. The cardiac action was violent. At the apex a systolic, at the base a diastolic, and at mid-stomach a double bruit were heard. The pulse fluctuated, more especially when excited. He sweats much in the night, but sleeps moderately well. The bowels are regular, and he takes a fair amount of food. The urine contains one-twelfth of albumen, and I found only one cast which was full of cells.

Sept. 16th He required morphine to procure sleep.

I cannot omit to state the fact that a surgeon, called a Homeopath, was asked once the patient on Sept. 16th. He was informed that he did not examine him, owing to the excited state of the patient, but prescribed varicin of phosida and arsenic alternately every two hours. Which were given.

Sept. 18th In the evening the temperature had fallen to 102.5°, and on the morning of the 19th it was 99.8°, but though the temperature was at first was lower than it had been for months, his symptoms were in no way improved. At 3 P.M. I was hurriedly sent for and found that while the bowels were being moved he became paralyzed on the left side. The left side of the face, left arm and leg were paralyzed.
Ulceraive Endocarditis

Case II

and it was very difficult to understand what he said. He swallowed with difficulty.

The pupils were dilated. He was somnolent, and had pain over the right parietal region. His

pulse was 148, irregular and intermittent, and his temperature had gone up to 102.8.

Sept. 21st. He had a raised hard palate of

redness the size of a crown over the lacrimal
tings and heart sizes are about the

game as before. Urine has 1/3 of albumen.

He is delirious at times. The tongue is dry,
having been moist until the hemiplegia occurred.

Sept. 23rd. Urine passed in bed. Skin is

dry. He takes very little notice.

Sept. 24th. He had a restless night. First

couldn't sleep. She began to sink in the after-

noon at 7:30 P.M. Breathing is laboured.
The pulse is regular and very full.

Sept. 25th. He died quietly at 5:30 A.M.
Ulcereative endocarditis

Case III.

Alice K., aged 37 years, had the ordinary diseases of childhood. She had Scarlet Fever when about thirteen years of age of a severe type, but it left no arrangement of any organ as far as was known.

She never suffered from Rheumatic Fever, but occasionally complained of pains in the leg which were supposed to have been what are called阵地 pains. For several years she has been subject to a cough and some wheezing especially at night. Intravenous was laid up by it. The menstruation was regular but occasionally accompanied by pain. When the teeth were cleaned the blood piled which bled at times to a very slight amount. In June, 1870, she was caught in the rain while out walking and returned home much fatigued. She complained of pain in the left side, was chilly, and coughed. The temperature was not above 100. A sound coughed the friction was heard.
Ulcerative Endocarditis

Case III

about the third rib on the left side in front. She was in bed a few days, but feeling better she got up though the cough had not quite gone, but none of the subphrenic friction remained.

From this time she began to look pale, and was very easily fatigued. On July 6th nothing could be detected upon examination, but the did not gain strength although she took food and went about as usual. She then went to the country for change of air. On July 17th she still continued pale and easily tired, and a diastolic murmur could be heard at the cardiac base. She had a dry cough and perspired at night. She began to take its palsy, and though she felt better. About August 24th she sat outside breathing in an east wind, after which she had pains in nearly all her joints, but worst in the left hand. She slept fairly in the night, but the cough awakened her and she felt a tightness across the upper part of the sternum with wheezing in the chest.

August 25th: Her aspect was pale and heavy. She had no appetite. The bowels were regular. Tongue clean. Urine contained ketonate without albumen. A double' eustachian was heard at the cardiac base. Pulse soft and jerking.

See tracings.

Cardiac dullness normal. Inspiration increased in force. Bronchial breathing heard at left apex. No moist rale, and no other abnormal sign.
Case III.

1850
Aug. 29th

6 oz.
3 1/2 oz.
1 oz.

Aug. 29th

6 oz.
3 1/2 oz.

Aug. 30th 1850

6 oz.
10½ oz.

In the tracing of Aug. 29th there is a memoir of the presence used while the stethoscope was at work, and at the marks in some blotting presents, the tracing being exact. J. S. C.
<table>
<thead>
<tr>
<th>NAME</th>
<th>Age</th>
<th>Disease</th>
<th>Pernicious Anæmia</th>
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<tr>
<td>F. Wilson</td>
<td>50</td>
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<table>
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<th>Pulse</th>
<th>Temperature</th>
<th>Resp</th>
<th>Date</th>
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<tr>
<td>Treatment</td>
<td>0 - 60</td>
<td>36°F - 38°F</td>
<td>60-70</td>
<td>8/9/17</td>
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<td>100-110</td>
<td>39°F - 40°F</td>
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<td>40°F - 41°F</td>
<td>90-100</td>
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<td>41°F - 42°F</td>
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<td>42°F - 43°F</td>
<td>110-120</td>
<td>12/16/17</td>
</tr>
</tbody>
</table>

Date: 8/9/17

Note: The chart shows fluctuations in the patient's pulse, temperature, and respiratory rate over several days. The pulse and temperature readings are indicated in a line graph format with vertical bars.
Aug. 28th Cont. The temperature at 10 P.M. was 103.4°, and she perspired profusely in early morning.

Aug. 29th. She began to take Salicylate of Soda. It was finished till she was deaf from it, but it had no good effect and upset the stomach.

Aug. 31st.

She began to take Syr. Americana twice in the same dose daily and diminish in 3 or 4 days. Try and reduce the fever.

A glance at the temperature and pulse chart will show the effect of the treatment.

Sep. 2nd.

On auscultation the only new sign detected was what has taken for a moist click on two at the 3rd left rib near the sternum.

Sep. 3rd.

The same sound at 3rd left rib heard more distinctly. She complained of her feet being very hot.

Sep. 4th.

The sound at 3rd rib was heard and called crepitation. That pain shooting through the ribs on left side.

Sep. 5th.

Varicose veins at left back.

Sep. 6th.

She felt chilly at 7.15 P.M., and at 7.45 P.M. she thought the left hand felt "dead." This sensation lasted only a few minutes.
Case III

Ulcerative Endocarditis

Sept. 2nd
10. P.M.

Sept. 12th

Sept. 25th

Oct. 4th
10. A.M.
Ulcerative Endocarditis

Case III. Sept. 7th

Slightness of left base behind, and no moisture. At about 8 p.m. the left hand "felt dead" again - taking arsenic, and quinine to keep same. Coughing and perspiring as before.

Sept. 8th

Sick after breakfast this morning, and having had 21 grains of hyg. arsenic yesterday, the doses were diminished to 15 grains in all during today.

Sept. 9th

She wasdrawing all day. Had some of the "dead" feeling in the back. Lung sounds not well heard over right back.

Sept. 10th

She took less food. Slightness at both bases behind, mostly on left, probably fluid. Sibilas occasionally on right side. Heart sounds as before. The left cheek was slightly swollem, and she had some bleeding from the nose in early morning.

Sept. 11th

The left cheek was swollen and the nose bled this morning - she had no quinine, but took flour and arsenic.

Sept. 12th

She had a good night, but during the day was hot and restless complaining of pain on the cardiac region.
Case 111

Sept. 12th. Concl.

The membrane is soft. The tracing shows no attempt at microtome. The heart sounds are confusd. At the junction of the third rib with sternum the first sound is re-duplicated, and a murmur takes the place of the second. At the upper part of the sternum the double sound is not heard.

Nothing new in the lungs. At night the "death" feeling was in the little or ring finger of the left hand.

W. W. more choice.

Sept. 18th.

Awoke at 8 a.m. with pain in abdomen, and was sick. Double sound still, and both have a beat. Pain over cardiac region at right. Temp. 99.5. Resumed desire.

Sept. 14th.

Neatwell. Same bleeding from the nose again. Resumed febrile state. Had a shooting pain from the heart and was breathless. The breathing is not fast, but the duration of the act is increased and accompanied by a wheezing. Heart sounds the same.

On right back above spine. Asthma. There is heard bronchial breathing, while at the bases behind the moist and moist and rattle log. The chills are less, though still troublesome.
DRETTED

SCH. 19. Heart sounds are very confused. Phlebitis
observed over cardiac region. Pain in abdomen to
mild. Albumen in urine so far. Bough is pregnant, but
does appear in such far advanced.
Ulcereous Endocarditis.

Case III.

Sept. 15th.

For the first time she did not sleep well. Breathing is laboured and wheezing. The dyspnoea appears to be independent of the state of the temperature and pulse. Heart sounds are less confused. Auscultation. Seepness from Lucerne—

Sept. 16th.

Had a good deal of cough in the night, and for the first time had some expectoration. She has more difficulty in breathing from the breathlessness. Heart sounds the same. But at the junction of the 3rd. rib with the sternum a sound like friction or fine crepitation is heard, and the heart sounds are heard more to the right than usual. An increase of sibilating dulness, but the thickness of dulness extends across the sternum.

Sept. 17th.

Sept till 4 A.M. Repulsive character of heart sounds can hardly be made out. Dulness at both bases behind, with absence of respiratory sounds. The same sound heard at 3rd. left rib. The mother

Sept. 18th.

Coughed much in the night, feeling red in the face and looking as if she might choke. Retching followed the cough. Had no diarrhea. Last took two grains of iodide of Potassium.
Ulcerative Endocarditis

Case III Cont'd

Sept. 20th
She coughed much in the night and feels very weak. Complains of pain in the right hip, about triceps, as if it were pulled. Tactile foot and left side, with impaired respiratory sounds.

Sept. 21st
Rested rose well. Slept till 5 a.m. without coughing. Pain in right hip still. She felt a chill run down the left side of the body and then alone the heart sounds at the apex sound distant, and the trace of a definitely heard. She feels unhealthy.

Sept. 22nd
She had a good night with the exception of some pain in the abdomen. The left side of the face showed marks of the pillow and the left foot felt slightly near the toes. She coughed very little all day. She was dreamy. No albuminuria. Left side felt cold. She feels very weak and unable even to talk. The pain in her hip is better. About 4 p.m. when coughing the nose bled, and she spat some phlegm mixed with blood.

Sept. 23rd
Much cough in the night and little sleep. Sibilus heard over the left front. Breath sounds...
Endocarditis. Acute type.

Case III. Const. Sept. 28th.

Breath sounds are heard better behind.

Sept. 29th.

She had a good night, felt chilly, but perspiration is profuse.

She continued much the same until Oct. 1st when swelling was seen in both feet and one thigh. The face also was flushed. She had pain over the splenic region. The cardiac first sound is sharp and fairly clear, the 2nd a long murmur.

In front the lungs are clear. Behind both are a good deal blocked up over the lower half with moist rales. Abdomen is distended and tympanic except at the sides, where it is dull and tender. Her urine all day. The cough being bad and night she has some pyrexia. Her condition -

Oct. 2nd.

She slept till 2 a.m. and then woke perspiring profusely. The swelling increases in the legs - headache is troublesome. Increased dullness over cardiac region. Slight oedema over both lungs. Urine is scanty and full of albumen. Her urine drowsy.
Ulcerative Endocarditis

Case III. Con.

Oct. 8th. She has been propped up in bed all day. Swelling is about the same. Sibilance heard on left front of chest. Moisture and sibilance behind. The respiration is much impaired on the right behind. Respiration during the night.

Oct. 9th. Talked during her sleep in the night and was confused when she awoke. She has been having the digitalis. Pulse interrupted. After lying on the left side the skin on the infra-auricular region was edematous, pitting on pressure. The swelling in the legs is less. She takes Sen and Arsenie.通行 is more abundant. Congue clear. Her breathing. The cough is much less troublesome.

Oct. 5th.

Had a draught in the night. The pulse varies in the fulness of the beats. Their drowsy and arthritic at times. The right lung is much blocked up. There is a considerable amount of fluid in the abdomen. Wine & Beauty and turbit that does not quite clear it. Hesperic Acid makes it clearer with successive doses. Hands are swollen. Her small bed sore upon the back. Bedsore open.
Case III

Oct 6th

She was quite intelligent this morning. Swelling was seen in the arm about elbow. In the afternoon she became delirious. Pulse irregular and intermittent—About 82. Ovarine increased. No albumen.

Oct 7th

She could hardly speak—Heaptic [Hepatic?]

Anthem increased with tenderness—Roaring about the same.

Oct 8th

Hadda most distressing night. No hair, but restless—with a feeling of oppression across the chest. She lies in a daze and when spoken to she does not show any intelligence—The heart action was violent. The skin of the back was oedematous.

At seven P.M. She suffered shock of consciousness, shook her head with much feeling, and suddenly died from syncope.

Post Mortem Examination

The pericardium contained a large quantity of clear serous—There was no appearance of Pericardia but the pericardium over heart was pale. There were no adhesions of the pleura.
Ulcerative Endocarditis

Case 21 Post-Mortem Report Cont.

"There was a considerable amount of fluid in the right, and much less in the left auricular cavity. There were clots in the heart, of which one was firm and fibrous. The lining was large and of nutmeg appearance—full of blood.

Eleven large and soft. Artistic Valves had resolutions in them—and part of their substance had disappeared. On one spot below the artistic valve, the endocardium had disappeared, and the muscular structure has base and ragged."

His mention is made of any decline of spleen or lungs having been made to see if any "infarcti" had left traces of the existence. The heart was forwarded to Dr. David Hamilton, of Edinburgh, with the request that he would examine it, and report thereon. His letter was still sending some infected beautiful sections of the diseased part, beautifully infected with caustic matter—his report:

"The heart is a beautiful specimen, and exhibits the recognized
Ulcerative Endocarditis

Case III

Report of Dr. Hamilton (Cont.)

Etiology of the disease.

The sections are made through the aortic cusps with ulcerative vegetations upon them. The whole vegetation present much the same character as usual, but much more destruction of the surface.

The whole surface of the valve in the neighborhood of the ulcer is covered with zoogloea, masses of micrococci. They stain blue in the lugoid preparation, and yellow in the micro-carmine.

The micrococci penetrate for a considerable distance, and the connective tissue nuclei in such parts are in a state of fatty degeneration. The latter has undoubtedly been the cause of the ulceration.

On the surface of the valve you will see some recent fibrin and blood corporcles.

The fact of the mass, in question, being micrococci is proved by all the tests, viz: Staining with lug. wood and micro-carmine; not dissolved by acetic acid, nor by lig. Potassa or Alcohol nor Ether.
Remarks upon Ulcerating Endocarditis

It has not fallen to my lot since entering into Medical practice to have the charge of a case of Ulcerating Endocarditis, except one case which I saw soon after leaving the University, with which I was very much puzzled at the time. In no way could I account for the patient's symptoms. Several eczematous, hypertrophic definite characteristic pustule, and until symptoms of hemorrhoidal and perianal developed themselves, I fancied that the woman was labouring under a peculiar form of "Typhoid." (In the beginning of the illness.)

For the opinions as to the three cases I have given, as well as for the temperature, pulse, and fluoroscopic chart, I am indebted to my partner, Dr. John Hadden, who has been good enough to allow me to use them in this paper.

The lady whose case is referred to in the paper as Case III., I saw for a few days before she left for the country, and I used to be at the time very much at the suggestion of the progress from Dr. Hadden. Who has been in attendance upon her. I can well remember her struggling her case was at first Dr. J. Hadden and myself, and one could not with any satisfaction account for the cause of the Anaemia.
Remarks.

It may be objected that there is no absolute proof that the two first cases given here are instances of "Ulcereating Endocarditis." It may be so, but the symptoms rather resembled so much those found in Case II., where it had a post-mortem examination to prove the diagnosis, especially in the peculiar pallor which was common to all three patients, and in the general course and symptoms of the disease, that I have felt justified in classing them all together. I am not aware of any reported case of simple, chronic, Endocarditis, from any cause whatever, which has run the peculiar course given in Case II. The paralytic symptoms might have been met with from an embolus being carried from the heart, in ordinary chronic Endocarditis; or in a case where from any cause fibrous had been deposited in the heart, from which "clot" a particle might have been swept into the general blood current; and it may be urged that a Rheumatic condition (especially in Cases I. II.) might account for the anemic condition, but it was noted in all these patients that there was a peculiar basiness in the pallor, more akin to that seen in the "Pernicious Prophylactic Anaemia." In Case II. this was very noticeable, and in fact a few days after the setting, which seemed to have been the starting point, so far as one can tell, of the whole mischief, a peculiar condition of anaemia came on without any effort, and with an absence of Rheumatic signs. Generally when an attack
of rheumatic fever is observed to add given rise to
vascular mischief before showing itself in the
joints, we have a rapid temperature rise and
evident symptoms of the interference with respiration
and circulation. In all Case III, the pallor
was noticeable for a considerable time, as
well as the general malaise, before anemia
caused any vascular mischief.

In all the three cases, the pallor was an
initial sign while in ordinary acute severe,
rheumatic fever, so far as I have noted, the
anemia develops later in the case, and is
not of the rapid character as described above.

It is possible that in Case III the secondary
mischief in the earlier stages was confined to
the heart walls and did not attach the alveoli,
and that the diastole died in July 1842
indicated some implication.

There was something peculiarity in the
child which Dr. Madden has carefully noted—
they were not like usual rages, but in each
instance were described as "if cold water
was being poured down the skin" and were
often limited to one side of the body.

The bleeding from the nose in Case III, a
from the gums in Case I show that there
was probably some less change.
Abdominal area came on only towards the
end of life in Case III, and was not noticed
in cases II or IV.

The pallor in the above three cases and the
absence of the ordinary causes of the production
of anemia do not seem to be the belief
of first only, that "Pernicious Progressive Anemia"
has going to set in, but in addition to the
Remarks

history, heart signs, and other indications. The temperature line is entirely different from that in Renalins Anaemia. I adduced the cases given by Prof. Dunke. A comparison with the cases given by Halden in Endocarditis will show this at once.

The prostrate perspiration in all three cases were noticeable, and seemed to herald the approach of the end.

The use of the Strophymograph is in the cases of acute renal disease, and more especially when the disease is noticed for the first time on the valves, I mean when we have a fault suddenly developing in the course of a pyrexial attack of doubtful nature – and more especially a diastolic fault at the time. The Strophymograph may indicate the gradual failure of the valves although the innocent valves of the heart may be indicated as fairly good.

A fact which might awaken the medical man to the existence of some sub-endocarditic process. The onset of organic changes in other organs – the occurrence of paralysis – symptoms of embolic phlegm, etc., etc., would render his diagnosis more certain. Though it must be understood that these processes embolic phlegms are not met with so often in acute Ulcerative Endocarditis.

Perhaps the peculiar clicks described by Halden may have been caused by showers of smaller emboli being cast off by the rattle free from...
Remarks

of the ulceration - debits, which may have interfered with the cerebral center which regulates the condition of the circulatory apparatus.

D. Uddom noticed that in the case in which the paralysis came on rapidly, the temperature has previously gone down quickly, while in the other there was a slower onset of paralysis after a gradual fall of the mercury.

The diagnosis of Acute Ulcerative Endocarditis is by some authors said to be easy, and by others, the difficult.

Generally cases are divided into Typhoid and Pyemic.

In the first the symptoms are masked by the late appearance of any fibrinous mischief, and with the known difficulty in noticing the nature of some cases of Typhoid itself, the physician may be pardoned this error, until a few days have passed over the patient's head.

Typhoid form

Here we have sometimes the illness, beginning with almost no indication of the heart being affected - headache, fever, diarrhea etc. (Uddom in Medicine Passian, by Valliop Lain Vol III pp. 28 - Passian 1st Ed. Senior pp. 295-197). Some deny the presence of rose colored spots on the abdomen (Uddom et Vast - justly by Valliop Lain pp. 28). In the diagnosis it must be recollected that Phthisis may occur in Ulcerative Endocarditis.

With care the diagnosis can be made correctly.
Remarks

Pyemic fever

Here again the presence of metastatic abscesses to aid the diagnosis. It seems to me that as Gacek says in his article upon Sephtic Endocarditis that many of the cases published as instances of "Shuntaneous, purulent reflection" have been cases of Septic Endocarditis (Dict Ent., 1st ed. 1877). I certainly returned in the report to the Parish Register the case I have already referred to as a pyrexia borne in my earlier years of practice, as Pyemic, and thought it due to some hidden focus such as abscess in a long bone, ulcerative process,_APPENDIX_TEXT

The presence of the micrococci in the section made by Dr. Hamilton was rather a surprise to me. The result of my thought after the subject of Bact. Mucoviscid Endocarditis, even with some recent German ideas in one's mind, would be that in cases of Panphelial Endocarditis where the micrococci masses in the heart are similar to those in the heart valves, the connection may be understood, but in Case III where we could find no condition which could do
for as our knowledge went, account for the illness at all at first, much less for the "Impetigo" as afterwards demonstrated, that we are entirely at a loss to explain the origin of the infection — in question, which I am entirely unable to throw the slightest light upon in this matter, among others, are —

1. whence did the Micrococci arise —

2. in what way do the Micrococci in this case differ from those in Inoccardi's Infection, as when an aper, for all the other any metastatic abscesses in case iii — 2 3 2

3. was the preliminary killer in case iii due to the incubation stage of this Impetigo process —

4. are these three cases all examples of one form, and was there some peculiar blood poison at work in all which brought about similar results —

Did the old standing Rheumatic mischief in the first two cases arise as a "midui" for further development?
Diagnosis in future cases

In addition to the signs previously given in the paper, I would urge the more regular use of the Stethoscope and the comparison of its tracings with temperature and pulse charts, as well as the careful noting of the pulse-respiration ratio.

The heart sounds and the indications of emboli being carried from the heart are almost pathognomonic. I know of only one case which is opposed to this. A peculiar case which is reported by

Jaccoud in a lecture where disease of the Initial tube where in health the blood flow of the heart was disturbed, and the embolic symptoms which had taken place during life hereafter put to the
due to a "plug" having arisen from the chronic endocarditic valve and being swept away in the blood stream. The P. In

determination revealed that the Initial heart health—no endocarditic tissue

incrassable but that an egg-shelled incrustation grew from the circumference

of the valve (attachment), which acted as a double Initial lesion would have done.

This might have been a source of error in a case where obvious features symptoms had come on.
Treatment

So far we can not say that any treatment is curative, when the diagnosis of a case is once certain — we can only attend to the comfort of the patient as well as may be.

Conclusions from consideration of these three cases:

1. There is a form of ulcerative endocarditis of much longer duration than usually mentioned.

2. The sphygmographic is invaluable in showing the rapid change (more than ordinary inflammatory) which is taking place in the valves.

3. Drugs have little effect when the fever, which has no characteristic course.

4. Dyspnea rarer — may be absent.

5. As Sandland said of many cases of rheumatic carditis: - "We may say of ulcerative, "Mais qui sait? Nous de bien l'estimer sur l'endocardite ulcérative" ou de l'endocardite Méline?"
6. The ordinary etiology is often at fault in explaining the mode of origin in many cases. In a great many individuals, we have no proof that any cachexia is at work — and the rheumatical poison is in some only present when investigation...

7. An ordinary "Diphtheria Host" could be discovered in Case 21.

8. There is a great analogy between true Diphtheria, and "Acute Endocarditis," although often called "Diphtheritic Endocarditis." Except the local inflammation! There is no more confusing and more applied medical term at the present day than "Diphtheritic or Diphtheroid." They should be used only in real true Diphtheria — and every medical man knows how his brethren vary even in the diagnosis of the milder degrees of Diphtheria and the sore throats which very resemble it.

Many sore throats, I believe, are only possible to be thoroughly and certainly diagnosed the Diphtheria — during the convalescence of the patient — by sub-infection.
9. There is a peculiar watery tasting, similar to that of Renicieux Anaemia, in some cases of Int. acute Mercuric Sideromelita.

10. The unilateral chills and numb feelings are very uncommon in other diseases, though seen in cases described here.

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