Thesis
for degree of M.D.

Gonorrhæal Rheumatism

Robert William Innes Smith
M.B. C.M. 1894.
Gonorrhoeal Rheumatism.

For a long time Gonorrhoea was always looked upon as a disease of a comparatively trivial nature. During recent years, however, it has come more and more to be looked upon as a serious disease with potentialities so far-reaching and widespread, that as Zinker says: "gonorrhoeal infection does not fall very far short of syphilis in importance." Not only have we the remote possibilities of the extension of the disease by direct continuity of the urinary tract, and, especially in women, of the genital tract, but we have the more immediate danger of the gonorrhoeal virus becoming absorbed into the circulation and setting up a inflammation in various structures of the body. The symptoms which result from this generalised gonorrhoea as distinguished from the local or primary affection are classified under the designation of gonorrhoeal rheumatism. There has been considerable controversy
amongst modern writers as to the advis-
ability of adopting a nomenclature for
the disease which would be more in
accordance with modern views. Barwell
in his work on diseases of joints, suggests
the name of methanal arthritis, because, as he
says, some cases of arthritis are due not
only to gonorrhoeal inflammation of the
urethra, but also may be due to a
simple urethritis, or may even be the
result of the passing of a catheter.
Howard Marsh in his monograph on joints
also adopts this nomenclature. As we
shall see however gonorrhoeal rheumatism
may result from gonorrhoeal ophthalmia, so
that Barwell's term is not comprehensive
enough. Allen Tazye called it gonorrhoeal
syringitis, but as a matter of fact gonorrhoeal
rheumatism is frequently not a syringitis at
all, attacking often the fibrous structure
around the joint rather than the syn-
avial membrane. The French school,
which has probably in honour of thoroughly
demonstrating the reality of the disease,
style it "Pleurorrhagic arthritis."
A general objection which can be raised against all these names is that each term expresses an inflammation in a joint. As a matter of fact the disease affects other structures besides joints. Hence Bezençon describes the disease as "Systemic Gouty Arthritis." To my mind, however, the old name of "Gouty Rheumatism" is just as suitable, applying as it does to the disease in all its manifestations. It has also the merits of brevity and antiquity.

History. In 1784 Swedion published a dissertation entitled "Traité complet sur les symptômes des maladies syphilitiques." In this work he described 6 cases of joint trouble associated with mental mischief. Swedion's description of the disease seems to be the first positive account in medical literature. Record, however, in a lecture delivered at the Hôpital du Trédi, Paris, in 1848 stated that our own John...
Hume remarked a connection between arthritis and hemorhagia in a man who regularly experienced phlegmatic pains during an attack of gouty seas. Ricord also mentioned that a certain Musprauce published a work in 1823 in which he described what he called "venereal arthritis." The description, however, is too indefinite and might apply to syphilitic arthritis.

The disease must have been fairly well known in Britain early in the nineteenth century. John Elliott, in a paper in the Medical Times (1860) stated that when he was a student at St. Thomas' Hospital in 1806-7 he remembered Sir Ashley Cooper describe the condition to his students. Till 1848 the disease however does not seem to have been seriously considered. In that year Dr. Lewis Brandt of Copenhagen published a monograph on the disease giving notes of 34 cases. Since then Ricord, Rollet, and especially Fourmier are the chief authorities who have contributed
Observing which stamp gonococcal pneumonia as a distinct affection.

Etiology. The actual cause of an attack of gonococcal pneumonia is to be found in an attack of gonorrhoea. In the great majority of cases the primary affection is in the urethra. Occasionally, however, gonococcal pneumonia may occur when the primary affection is in the eyes. Clement Lucae in 1885 seems to have been the first who observed inflammation of joints associated with gonorrhoea uvealis. In 1899 he read a paper before the Royal Medico-Chirurgical Society, citing 23 cases of gonococcal pneumonia in infants, in which the knee was the joint usually affected. Converse described an expanding case of granular eyelids, to cure which he inoculated each eye separately with gonococci, the result in each case being an attack of arthritis. In Clement Lucae's series of cases, female infants were affected as often as males.
When the original affection however is in the bladder the sex of the individual has an important bearing in relation to gonorrhoeal phthisis. Males suffer far more frequently than females. Mr. Calkins in a paper in the Edinburgh Hospital Reports in 1897 states that he attended 614 males suffering from gonorrhoea 19 of whom suffered from gonorrhoeal phthisis. During the same period he attended 149 females, with gonorrhoea, only one of whom suffered from phthisis, and he suggests that this case might very probably have been an ordinary case of phthisis accidentally associated with gonorrhoea. Mr. Calkins' figures seem to be the general experience of most observers, although in the case of women we have to contend with the obvious difficulty of knowing that the patient is actually suffering from gonorrhoea. There seems to be no evidence...
suggest that alcoholism, excessive coffee, or exposure to cold have any influence in precipitating an attack.

Over-exertion may possibly be an element in the causation of the disease. The knee is very liable to strains and as a matter of fact is the joint most frequently attacked in far

-arthral rheumatism. As will be seen later, the question of rest is of some importance in the treatment of the original gonorrhoea, and neglect of this may very possibly precipitate a general infection of the gonococcus.

Lastly we come to the question of pre

-disposition. Over and over again since John Hunter's time it has been noted that many individuals after each attack of gonorrhoea, have an attack of gonorrhoeal

-arthral rheumatism. Some have said that this predisposition is found in those who have the so-called Rheumatic or joint inflammation, i.e. those who have a special predisposition, hereditary or otherwise, to rheumatism or joint disease. This however is not so. Many people
have pneumoconilar phthisis who have
never had joint or pneumonia, and
whose family history shows no tendency
in that way. Other authorities then say
that more individuals attacked
by pneumoconilar phthisis have a
"special" predisposition to the disease.
What is the special predisposition?
Is it something that the patient has
been born with? I think not: a
man is attacked with erysipelas in
the face. In twelve months he has
another attack and possibly further
attacks. He is generally said to
be predisposed to erysipelas. But
he is not predisposed to these
attacks because of some special
constitutional condition which he
has inherited, but rather that at the
initial attack of erysipelas
phthisis has left a "something"
behind which predispose him to
further attacks. Some individual
are very liable to repeated at-
lacks of croupous pneumonia, being
as is generally stated predisposed to them, the predisposition dating from the first attack. The same reasoning holds in the case of those who repeatedly develop gouty rheumatism during the progress of a gouty rheumatism. It is therefore to conclude that all attacks of gouty rheumatism after the first are predisposed attacks, whereas the immediate cause of the initial attack must be sought for elsewhere. This point will be gone into under the pathology of the complaint.

Regarding the frequency of gouty rheumatism statistics vary. Indeed it must be very difficult to get accurate figures when so many cases of acute gouty rheumatism never come into the hands of the surgeon at all. A large number of cases of gouty rheumatism come for advice on the joint trouble and make no mention of the condition of the bowels! Berkeley still on the
authority of Rollet state one in 25 suffering from gout show arthritis. Warren state that about 20% of all gout show some symptoms of systemic fungal infection.

Pathology. From time to time various theories have been and are being offered which would explain the occurrence of fungal infection. Early observers seem to have looked upon the disease as an ordinary attack of rheumatism or gout which was precipitated by the fact that the fungus had occurred in a patient with the rheumatid or gouty diathesis. Occasionally we find that the early symptoms of gout-like gout show a clinical resemblance to gout. Apart from these points there does not seem to be any evidence
which would support the view that the disease is nothing more than ordinary phemalosis in joint.

In 1880 W. J. added advanced the view that the condition was of a reflex nervous nature, i.e., that the perineural phemalosis was due to irritation of the meninges which sets up a change reflexly in a joint in individuals who have the special susceptibility to the condition. He based his theory on the occasional occurrence of what appeared known as a neural fever which sometimes follows the passage of an instrument, and also in those cases of arthritis first noted by Brodie which have followed instrumental injury. Dr. Todd in his Groves Lectures in 1843 drew attention to the fact that phemaloid arthritis was very common in women, and he suggested uterine mischief as a possible cause. And extended his theory to these cases and concluded that the joint affecting
were due to reflex influences from the diseased genital tract. He also
with some amount of plausibility
attempted to draw an analogy
between genitoanal arthritis and
Charcot's chronic arthropathy.
Undoubtedly some of the symptoms
of meningitis are due to nervous
causes. It has been demonstrated that
a topical application of cocaine
before instrumentation has a beneficial
effect on those who suffer from the
condition. Nevertheless all the symp-
toms resulting from instrumentation
such as the cases of arthritis first noted
by Brodie cannot be put down to "irritation." Again the joint lesion
of genitoanal phlebitis in the ma-
major of cases have no resemblance
to phlebitis arthritis. While the
clinical history of Charcot's disease
has nothing in common with gen-
itoanal arthritis. Moreover nine
cases of genitoanal phlebitis
following inoculation of the con-

- ptosis, or ophthalmia neonatorum, could not possibly be explained by the "irritation" theory, while the other manifestations of generalized vomition are ignored by Ord altogether. At the present time Ord's views have been practically laid aside.

Barwell in his book on "Ophthalmia Neonatorum" (1860) seems to have been the first in this country to suggest that the disease was of the nature of a hyperemia, i.e. that the point of infection was in some way due to the flux in the vessel obtaining admission to the circulatory system. He placed "medical" arthritis in a category which included "measles" arthritis, "scarlet fever" arthritis, "measles" arthritis, "scarlet fever" arthritis, and "typhoid" arthritis. Although his list is a very arbitrary one and not by any means strictly pathological, nevertheless it united seem from nine recent literature that arthritis is a by no
means uncommon complication of many acute specific diseases.
At the British Medical Association meeting held at Cheltenham (1909)
he stated that joint disease may follow measles and stated that it is rare. Nevertheless, interstitial disease of joints is not uncommon after this disease. Possibly the virus of measles sets up a syndrome which paves the way so to speak for an invasion of the tubercle bacilli. Scarlet fever phenomena is an interesting study in this connection. It generally comes on when the acute fever is subsiding and in this respect is not unlike some other phenomena. Is it due to absorption of toxic substance from the throat?

Again it is interesting, in view of the modern theory of
Acute articular rheumatism being
due to a special form, to note
that in a large proportion of cases
of rheumatic fever, the throat is
affected very early—often in
fact before any joint symptoms
Is it not possible that the simple
tonsillitis seen every day is
really a local rheumatic af-
fection—analagous to the local
inflammation of the wulth in
gonorrhea—which from
some unknown cause may
or may not become late
disseminated in the blood as
acute rheumatism? Those cases
of arthritis deformans first men-
thioned by Todol may very well
be explained by absorption of
poisons from a disease per-
dural haemat. Periarthritis
has a similar explanation.
In 1879 Heeser of Breslau dis-
covered the gonococcus in the urethral
dischage and demonstrated the
Specific nature of gonorrhoea. Bums followed by finding the gon-
-ococcus in the pus from cases of
ophthalmia neonatorum. The habits
of the gonococcus are of some
importance in this connection. Its
favourite habitat is columnar epith-
elium, attacking both the male
and female urethra, and also
in the female the cervical, uterine
and labial mucous membranes.
When it attacks squamous epithelium
such as we find in the vulva and
vagina it is probably associated
with septic organisms. It has also
been established that the gonococcus
may be cultivated in human blood
serum but only with difficulty, its
vitality being of very brief duration.
De Chastel 1897 make the inter-
esting observation that when the
gonococcus is injected into the
blood of human beings it
dies in about 24 to 48 hours.
In 1872 hydrorrhoea published a monograph, drawing special attention to what he called "latent" form.

The researches were directed to prove that many cases of obscure inflammation in married women were due to a "latent" form of the husband acquired, may be, years before marriage.

The question of latent gonorrhoea has not so far as I know been previously raised in connexion with the subject of gonorrhoeal phthisis. As will be seen below, it may be of some importance.

Having disposed of these preliminary points, we are now in a position to discuss the pathology of the complaint.

When the gonococcus obtains admittance to the urethra an inflammation is set up in the first instance in the anterior or penile portion of the canal—an anterior urethritis. There is exudation of the mucous membrane, diapedesis...
and proliferation of white cells, which act as phagocytes, and are thrown off as pus cells, which on microscopic examination are found to contain the gonococci. This army of white cells acts as a barrier to any serious invasion of the gonococci into the blood. Even supposing a few cocci obtain admission the white blood corpuscles in the general circulation seize on them and they die. In this position, i.e., the female portion of the urethra, drainage should be fairly good the fluid being dependent and infection acting as an agent for irritating the inflamed surface and washing away the pus. Suppose however that the inflammation from various causes spreads back into the bulbous portion of the urethra, setting up a posterior metritis. In this position we have several important anatomical considerations. In the first instance the bulbous urethra...
is an ideal "well" where the inflam-
matory products tend to stagnate and set
up further mischief. Login in describing
the mucous membrane of the urethra
states that it is beset with small
pacinian mucous glands and follicle in
its whole extent. The ducts from these
glands pass obliquely forwards through
the mucous membrane. Besides these
there are the large recesses or lacunae
which are most abundant on the
floor of the bulbous portion of the
urethra. The inflammation will
spread into these recesses, free
drainage will be still more difficult
and thus this pyloric urethritis
may open the door to a systemic
infection.

Ward in a paper in the Brit-
ish Medical Journal (March 30, 1901)
makes some thoughtful suggestions
on "The Pathology of gonorrhoeal
shewa." He states that gonorrhoea
should be looked upon as a
toxic affection, i.e. that toxins are
produced locally and absorbed into the blood. If a large amount of toxin is taken into the circulation, it has a paralyzing influence on the white corpuscles of the blood which thus lose their power of acting as phagocytes against the gonococci, thus paving the way to a general infection.

We know that gonorrheal phenomena is in the great majority of cases a late complication of gonorrhea. It seldom occurs before the third week and during the previous period some fault in the treatment of the disease may have caused the condition to spread back into the uterine portion of the uterus and to affect these receptacles already described. Large amounts of toxin are taken up into the circulation and now instead of the gonococci dying in the blood they may form endoli and lodge in the spongy
Prings of joints, on the valves, of the heart, or any of the positions
known to be affected in gonorrheal phenomena. This preliminary
effect of the toxins on the white cells probably remains more or less
permanent; thus explaining the so-called special predisposition to
future attacks.

To summarise these points then, we have, first, a protein method; due
probably to some factor in the testina. Secondly, in this protein large quantities
of toxin may be absorbed thus preparing
the blood for the reception of the germs.
And lastly, the infection may
take place spontaneously, or the
"comp de place" may be given by a strong
chemical injector of the passage of an
instrument, which lowers the vitality
of the parts, or again a sudden strain,
e.g., passing water through the swollen
urethra, may set up the generalised
somewhence.

When the gonococcus attacks the
female urethra and vagina, the possibilities of general infection are small.

The urethra is short and drainage is free, micturition acting as a good irrigant. As regards the vagina, the mucous membrane is tough and not comparable in any way to the delicate mucous membrane of the male urethra. The same explanation applies to the com-

 counterpart when attacked by the same organism. Hence the infrequency of gonorrheal phlebitis in women and cases of gonorrhoeal phlebitis.

We now come to the exam-

ination of those anomalous cases.

of arthritis which follow a so-called simple urethra. Throughout the older literature cases are noted where a patient with a simple urethra has been seized with some joint affection. These cases, according to Dr. Ord, bear out his view that the joint lesion is due to a reflex nervous influence i.e. any

stimulon in the urethra – specific
or not is liable to set up sympathtic inflammation in a joint. Brodie in his book on joints (1850) describes cases of simple arthritis followed by rheumatism. He also gives an account of a patient with a stricture who had four attacks of rheumatic inflammation and ophthalmitis, two of which were attributed by the patient to four arthrotic injections and two to the use of the poultice. Similar cases are found scattered about the older literature. In view of the modern ideas of the pathology of joints, the first question which arises is: Is it possible in a simple i.e. non-specific arthritis or the passage of an instrument to set up an arthritis? We must bear in mind that it is only since 1879 that we have been in a position to say that a method of drainage was successful or not, the presence of the gonococcus being the sine
gua non" in the diagnosis of the disease. One must therefore admit that many of the older cases of so-called simple arthritis might very well have been really four-
arthrosis. Again one of the common causes of simple arthritis is joint.
A jointy individual may very well have an attack of simple arthritis, followed in a longer or shorter period by an ordinary attack of jointy arthritis. Many of the old cases may therefore come under this category. The arthritis in these cases is simply a symptom just as the joint affection is, there being no question of cause and effect. To illustrate this further I will draw attention to a case which appeared in the Illustrated Medical News for January 1889. Dr. Savile describes his case as: "Unusual phenomena of 32 years standing." The patient had had eleven acute attacks of joint inflammation, each attack
being preceded by a simple
mechanism. Considerable disease took
place, the case having the character-
istics of arthritis deformans. He
suggested that the mischief was the
cause of the condition. My com-
ments on this case are that the
mischief was simply a symptom just
as the arthritis was, and that both
conditions were manifestations of the
same constitutional disturbance.

Again have we any evidence
that when a man gets gonorrhoea and
is clinically said to be cured, all the
gonorrhoea has disappeared from his
system? In this connection
hydropathy's doctrine of "latent"
gonorrhoea is of some import-
ance. This doctrine applied
more particularly to the fact
that a man may have had gon-
orrhoea years before marriage and
may suppose himself cured and
yet may cause serious internal
mischief in his wife or may even
newborn.

Infect his children and set up gonorrhoea
ophthalmia. In 1898 Dr. Muir Murray
reported an interesting case before
the Edinburgh Obstetrical Society of an
infant suffering from ophthalmia
neonatorum. The father having had
gonorrhoea 8 years previously. A
curios point in the case was that
the 2 children born before the
injected one had escaped.

In "latent" gonorrhoea, the cocci are
present in the bladder but are in
a dormant state. They probably
require a special environment
which will allow them to multiply
and cause mischief. Is it not
likely that many cases of "simple"
urethritis are really due to the
gonococci? A man may have
had gonorrhoea years before and
then a debatch or a chill may
possibly be sufficient to set up
some congestion in his urethra
which stirs up the sleeping for-
ococci — a discharge is noticed.
a few days — and then all is soon well again. Possibly during this period he may develop arthritis which is really an attack of gonorrhoea pneumonia arising from a "latent" gonorrhoea. Or again suppose we pass an instrument on an individual who has a "latent" gonorrhoea; it is quite possible to cause some abrasion of the mucous membrane and inoculate him with the cocci already present in his urethra. His blood is already prepared for the reception of the form, toxins having been previously absorbed during the original attack, and he develops some manifestation of gonorrhoeal pneumonia. How many cases of subacute pneumonia may really be due to a "latent" gonorrhoea? A further point, in relation to those cases due to instrumentation, is that possibly the catheter itself might have had gonococcal bacteria and if it, one grandfather's cat
having been particularly clean with their instruments.

I maintain that many cases of simple urethra which last a few days are often really relapse of an original urethra and that joint lesions occurring in such cases are genuine attacks of urethral phlegmum.

The following case which I attended last autumn seems to bear out these views:—

Freze H. aged 53 widower, blacksmith consulted me on the 6th of September, 1901, complaining of difficulty in passing water.

He stated that he had had four urinoma in 1875, in 1877, and again in May, 1899. Since his last attack he had had more or less difficulty in passing water, but never required an instrument for passing. Other symptoms pointed to the fact that he was suffering from a stricture. He never
had rheumatic or joint. Ex-
cepting his attacks of pancreatitis,
he stated that he had always had
the best of health. His family history
was good. He knew of no relative
who had ever suffered from
rheumatism or joint. He had
occasionally taken beer to excess.
His present trouble was in his opin-
ion aggravated by a drinking
bottling two nights previous to the
consulting me.

In my consulting room
on the same date (ie 6th) I passed
with some difficulty a no. 2
catheter and relieved him.
I ordered him to bed informing
him that I would call at
his residence the following day
to dilate his stricture. On
the following day (ie 7th) I
passed two of Lister's ergotes marked
2-5 and 4-7. On the 9th I
called again and passed the
same size of ergot and also one-
other marked 6-9. (My series of
Lister's dosage is not complete, the
alternate numbers 1-4 3-6, etc. being o-
mitted). On this visit my patient
informed me that he had pustular
in his right foot. On examination
I found the time aspect of the
foot very much swollen and red.
I ordered hot fomentations and
administered the usual anti-phrenic
remedies. I considered on the
first instance that the condition
was ordinary phrenitis. It
did not affect the great toe, but
seemed rather to implicate the
points between the metatarsal and
seaphroid lines, possibly also the
joint between the astragalus and seaph-
roid. In several days the foot
remained swollen and painful,
on the 13th his left knee began
to swell and became very painful,
with some abatement of the pain
in the foot but no corresponding
reduction of the swelling.
The pain in the knee was intense, the slightest movement of the joint causing the most exquisite agony. His temperature never got higher than 99.0°F, but his daughter informed me that during the nights he sweated considerably. On the 20th he had diplopia with a well marked strabismus. His foot was now much better, but the knee continued swollen and painful, requiring opium to ease him and give sleep. The heart sounds remained normal throughout.

After the 9th I did not again attempt instrumentation, but because I thought that there was any connection between the phrenatism and the knee, but for the simple reason that my patient did not feel inclined for it. It was several weeks before I thought of the possibility of jointseal phlebitis.
-alism. I then questioned him carefully regarding his circumstances. He had no confidence in giving me the requisite information and gave me the exact date in May 1879 when he had his last attack. He kept a diary.

He gradually recovered — his knee and foot being practically well at the end of November. His squint, which I attributed to some local inflammation of the retina (external Recht's), remained for several weeks longer but ultimately disappeared. He is now quite well, except that he feels that his "water is not right yet."

His "clap" in May 1879 only lasted about 14 days. He stated that the discharge seemed to get better very easily. After the passage of the stools there was a slight discharge of pus which however only lasted 2 or 3 days.
In discussing this case I would suggest that the man had a "latent" gonococca, i.e., not gonococeci were present in his blood without any clinical evidence of the fact. His gonococal phlegmon was due to abrasion of the mucous membrane and direct inoculation by the gonococeci.

Regarding the presence of the gonococeci in the affected areas, results have varied among different observers. Pierson demonstrated the presence of the gonococeci in affected joints and produced the disease artificially by inoculation of culture of the gonococeci. Kammerer and Bordoni- Upreduzzi also demonstrated their presence in joints. Councilman of Boston published (Medical News 1893) a case of gonococcal pericarditis and myocarditis. After death gonococeci were found in the heart, especially in the
Left amput. Other mentions 2 cases of joint-seal endocarditis in which sporeoccci were obtained from the blood during life and from the valves after death. Leyden also related a similar case.

Many able observers however have failed to obtain the sporeoccci in the affected parts. Why this should be so is difficult of explanation. We doubt many of the cases of valvular disease associated with sporeoccci are due to their organisms, so that we must allow for the possibility of mixed infection. In the joints it may be that much may depend on the period then the part is aspirated from the fluid. If so it is quite possible that the toxins produced locally by the sporeocci may have actually killed the sporeocci themselves, or it may be that the sporeocci in many cases do not get inside
The joint at all. As a matter of fact the majority of cases of arthritis associated with synovia are really affected in the surrounding parts — the "tenacity" as Mr. Peter calls it, i.e. the ligaments and tendons around rather than actually inside the joint. Any effusion into the joint in such cases is really a pressure process due to the tenacity of the inflammatory around. Hemian in the New York Medical Record (1898) states that he examined 4 cases of paraarticular arthritis for the following — 2 with positive results and 2 with negative results. One of the former was an infant affected with ophthalmia neonatorum and arthritis of the wrist. Those rare cases which suffer from certain syphonic organisms. The pathological changes in the joints vary. They are best studied clinically and will be seen
into mere morosity under the symptoms of the disease. Prof. König of Berlin's classification is as follows:

I. Hydrocephalus. This is a very chronic form and is merely a passive effusion into the joint cavity which may cause considerable distension.

II. Sero-pleurisy form. In this form we get an ordinary acute pneumonia with fibrin formation in the fluid.

III. Emphysema. This is the previous form plus suppuration.

IV. Phlegmonous form. The common variety. The inflammatory affects special the parts around rather than the synovial membrane, i.e. the tendons, ligaments, bone, and even the periosteum.

This classification is quite an arbitrary one. It is distinct pathologically in every distinction to König's which is more specially a clinical classification.

Haslund of Copenhagen in a communication before the International
Medical Congress 1885, stated that he
practiced 114 cases affected with
jaundiced scrofulous rheumatism, in 10 of which
the fluid had the following characteristics:
- turbid, yellowish green, thick, tenaciously
- acrid, alkaline, with white flakes in it. He considered these characters
to be of importance in diagnosis, the
fluid being bloody in hemorrhagic case,
and serous in rheumatic case.

Symptoms. The cases of jaundiced
scrofulous rheumatism after the primary infection
varies greatly in different cases.
In a large proportion it comes on
during the third or fourth week.
Warren (Warren and Todd's Surgery, 1800)
states that it may come on as early as
the 2nd day. On the other hand
most observor, acknowledge, that it may
be delayed to the 4th month. If
however, the doctrine of latent form
which is accepted, it may be
defered for years. Possibly many
cases of what is generally termed chronic pneumonia may really be pneumonia resulting from a latent pneumonia. In fact, in the Annals of Surgery, Vol. II, 1870, it is stated that König believes that 90% of all cases of pneumonia in adults are associated with pleuritis, so that pleuropneumonia must be the commonest variety of pneumonia.

Much has been said regarding the behaviour of the discharge in the onset of generalized pneumonia. In a majority of cases, it is lessened or ceases, but this does not seem to have any causal effect on the general infection. The pneumonia generally signifies some important point to such an extent that the patient is compelled to rest to relieve his new trouble, with the result that the discharge abates. On the other hand, the amount of the discharge does not seem to be a reliable guide to the severity of a pneumonia, e.g.
ically if the thyroid region is most affected.

In the vast majority of cases of
pinehoar rhematism, the joints are the
parts usually affected. The latter occurs
when generalized seems to have a
special preference for joints. This,
however, is not always the case. Forrieer
was the first to draw attention to the
fact that pinehoar rhematism is
not merely a disease of joints, but
is really a more general disease which
may extend to various organs and
structures, e.g., pinehoar rhematism
may exist without any joint affection
at all. He cited 52 cases, in 15
of which the joints remained healthy.
In fact he supposed that the non-articular
manifestations were the more important.
The following is a list of structure which
may be affected in pinehoar rhematism:
Joints, Bursae, Tendons and Under Shells;
Fasciae, Peristems, Bones, Muscles, Nerves,
The eye, The Endocardium, Pericardium, and
Pleura. In a large proportion of cases,
The lesion is generally single, but it
It is no means infrequent to have 2 or more lesions. Four times mention 2 cases
where the local symptoms in one were
beneath 27, and in the M. 16. A
common combination is inflammation of
the eye (not the primary inflammation due to
local inoculation) associated with
arthritis. In Northrop's series of 252 cases,
the disease was poly-articular in 175, while
in only 56 was a single joint affected (1962).
It would seem therefore that the statement
that the disease is usually mono-articular
is not borne out by statistics.

Generally speaking when the disease
attacks a joint the onset is sudden.
It may have a preliminary pain and
a slight rise of temperature, but as a
rule the constitutional disturbance is
slight. He may complain of pains
in several joints, the pains gradually
subsiding in all except one joint
which becomes swollen and tender.
Or several joints may be affected
from the start or again the complaint
may simply be of wandering and inter-
milk and being in a joint without any physical signs. In a large proportion only one joint is affected and that the knee. Earned in Allbutt's System of Medicine gives a table compiled from Fournier, Rollell and others, which gives the frequency of different joints affected in a total of 119 cases, the knee being affected in 83 occasions. This seems to be the experience of most observers. The large expense of synovial membrane and the liability which the knee has to strain seem to be reasons for the prevalence of pulmonary inflammation in this joint. It is this joint next to the fingers most often affected in rheumatoid arthritis. Other has drawn attention to the fact that certain joints, not affected by joint or rheumatism, are infrequently suffer from pulmonary inflammation. These are the temporomaxillary, sacro-iliae, and sterno-clavicular joints. They were attacked 6, 4, 4, and 3 times respectively.
Carroll's series. Later, also states that the intra-vertebral joints may be attacked. Hennet described a case of subacute rheumatism and noted, that when an exacerbation of the local symptoms took place, the patient had an attack of loss of hearing, sounds especially of high pitch causing severe pain. During silence there was no discharge from the ears. He concluded that the gnawing had attacked the joints of the ossicle.

It will be noted therefore that all the joints of the body are liable to be attacked. The elbow and wrist are not uncommonly attacked. The only case of subacute rheumatism in a woman which I have seen was a "sympathetic pain" whom I was treating for ordinary rheumatism of the wrist at the Manchester Infirmary. My "chief" diagnosed gouty arthritis and this was confirmed by after events, the woman-regarding treatment for her
In infants, Clémenceau noted that the symptoms generally of the knee came on 14 days after birth. There was never any tendency to anthropsis — the condition being a transient one and passing off without after-effect. The possibilities of abscesses are not so convenient in the eye as in the frontal sinus, and this coupled with the fact that the eyes were being treated thus ensuring free drainage, would explain the transient nature of the disease in infants.

Fourier, who seems to have investigated the joint lesions more thoroughly than any other observer, classified them from the clinical standpoint into four varieties.

1. Hydrarthrosis. This variety is generally mono-articular affecting knee ankle or either, and consisting simply of a passive effusion into the joint. The condition is practically painless, movement of the joint
being free and easy. It is very chronic lasting months or even years. Resolution may gradually take place, but cures may result. Fourier states that this variety is not common.

Davies-Colley described this form as profound synovitis, laying stress on the fact that it occurred always in the male and that it usually affects the knee.

The effusion may be so great that spontaneous distraction may take place. Gossolin draws attention to this possibility in cases where the joint is greatly distended with fluid.

In Hydromathy there is no general disturbance.

11. The Rheumatic or arthritic form. This variety has some resemblance to arthritic rheumatism. Several joints may be affected or only one joint. There is some constitutional disturbance, but it is not so severe as in acute rheumatism. The temperature is seldom higher than 100° F. There are no acid
sneas. When several joints are attacked, it will be observed that the well-known "erratic" habit of acute rheumatism is absent; the joints being affected in a consecutive fashion. The appearance of the joints is similar to ordinary rheumatism, i.e. they are painful on the slightest movement, hot to the touch, and swollen and red. Inflammation of the eye is a possible complication and cerebral symptoms have been noted, such as delirium, as in the case of G. H. mentioned under the pathology of the disease. In this form cardiac complications may take place but with nothing like the frequency of ordinary rheumatism. The course varies. Or, occasionally, all the joints resolve except one which may tend to ankylosis. Or all the joints affected may become fixed by adhesions. Or again complete resolution of all may take place.

According to Davie-Colley this variety affects females as often as male. He noted 12 - 9 in females, 5 of whom
were pregnant. Possibly in the latter there was some premonitory inflammation of the endometrium previous to conception. The fact of pregnancy having taken place would seem to suggest that in this state gonococci are more easily absorbed from the uterine mucous membrane into the circulation than in the normal condition. Possibly many cases of ante-partum joint mischief are produced.

David Colley also noted that the elbow and wrist are more frequently affected in this form, in contrast to the hydrarthrosis variety in which the knee is the joint usually affected. In these cases the inflammation affects the synovial membrane, the ligaments, and the tendons around.

The arthritic form. In this variety there are no objective signs such as swelling, redness or tenderness. He may complain of wandering or intermittent pains in or about the joint— or he complains of intense pain in the simplest movement of the joint.
Fournier noted the variety in recent cases with the manifesting of arthritic rheumatism, and in those
without other general symptoms. They have a very chronic course. The possibility of arthritic rheumatism
should always be considered when a patient's complaint seems wholly out of proportion to the intensity of
the local mischief.

IV. The pseudo-arthrosis form. This is a complex affection involving the whole joint and parts around, including the
tissue and cartilages. Results in great deformity and make arthritis
deformans. Attacks the fingers and
pelvic bone. According to Fournier, the
individuals attacked show no rheumatism or
joint twinge. This form may be identical
with rheumatoid arthritis (arthritis deformans).
It is interesting to note that in a
series of cases collected by Stewart
at the Royal Victoria Hospital, 36%
of the males affected with rheumatoid
arthritis showed a history of rheumatoa.
In Garrett's series of 500 cases of rheumatic arthritis, 411 were in women. Here again Toddy's view that they might possibly be explained by decreased condensation of the uterine mucous membrane, seems to suggest that the four or so cases may play a part. At any rate the view that rheumatic arthritis is due to a germ of some form is gaining ground.

It must be admitted that Formin's classification is quite an arbitrary one. The variety may merge into another. If the rheumatic variety may pass into the jointed kind. Severe joints may be attacked and the type of inflammation may vary in the different joints. Repeated attacks of pneumonia may set up fresh attacks of rheumatism which may fall on different joints on each occasion. The type perhaps varying in the several attacks.

The clinical course of the disease is usually chronic, often with periods of improvement and periods of relapses.
The tendency in all is to ankylosis taking place. Cases are on record where ankylosis of all the joints of the body took place after repeated attacks of gout-arthrosis (Howard Mach). The ankylosis may be due to extraneous causes, such as adhesions amongst the tendons about the joints, or it may be due to change inside the joint. The ankylosis inside the joint is usually of the fibrous form, but may be bony as in the case recorded by Howard Mach. He was excising a flexed knee to free the patient (who had suffered from pre-renal rheumatism) a useful hint. He found some bony ankylosis as well as fibrous ankylosis inside the joint.

In a fair proportion complete restitution takes place.

Regarding suppuration, Fourier stated that it never occurred. It seems however that it does occasionally take place in the acute arthritis, varies the general appearance of the
joint is frequently such that one feels
that pus must be present. Joints have
frequently been opened in the expectation
of finding pus with negative results.
When the disease attacks joints
such as the wrist and ankle, the
tendons and tendon sheaths around their
joints usually participate in the general
inflammation. There is therefore frequently
great swelling and tenderness above
and below the joint following the line
of the tendons.

Bursae and Tendon Sheaths.
The disease may set up an inflam-
mation in certain bursae or tendon sheaths
which may or may not accompany affection
of a joint. One of the common
bursae attacked is that in front of
the tendon achilles. An inflammation in
this region i.e. the back of the lower
1/3 of the leg, should always excite
a suspicion of gonorrhea. The following
bursae and tendon sheaths may be attacked
(Taylor's Diatomeous Earth).
Bursae: — In front of the patella, in the Tuber ischi and beneath the os calcis, tendon sheaths: — Bicipital (alone or in common with inflammation of sheath), fascial, extending of hand and fingers, dorsal flexors of toes and flexor hallucis, tendon sheaths of wrist and ankles (will or without point affecting).

Fasciae. Enzyme form. Phlebitis may affect the plantar fascia. Wollaston noted that patients with forearm frequently complained of pains in the sides of the feet. The inflammation may spread to the inferior calcaneo-septoid ligaments and cause falling of the arch of the foot and flat foot. Howard Marsh in the St. Bartholomew's Hospital Reports Vol. Xviii. states that the initial inflammatory attacks all the tarsal joints in the foot instance, spreading later to the fibrous tissue on the sole and thus causing flat foot. Brodie (Dis. of Joints, p. 43. 1850) describes a case commencing with pains in the
feet. He also supplied that the inflammation was in the tarsal joints.

At any rate whether the disease attacks the plantar fascia forming or not, formation is a disease often overlooked in the causation of flat foot.

Earrood states that the plantar fascia is frequently attacked.

Bone. Jennie first drew attention to the possibility of formations attacking bone. He noted that long bones such as the tibia may be attacked with circumferential swellings about the size of an almond. These swellings were due to a localized periostitis caused by the intramedullary worms in the blood. They subsided in a few days.

Jennie also described a very chronic affection of the periostea in which hard swellings were formed. He considered that they were new formations i.e. a growth, and gave them the name of "Periostosis." More recently Mr. Edward Thirty described a case of
what he termed "Hypertrophic juxta-articular osteo-periostitis." It occurred in a patient suffering from juxta-articular phenomena of the knee. He noticed the knee and end of the femur gradually enlarging. The hardness suggested that it was a hypertrophic periostitis, but X-ray examination showed that it was not bone, but a hypertrophic periostitis. The course was very insidious and chronic. Mr. Monod had a similar case at the Leeds Medical Chirurgical Society. The condition seems to be very rare. It doubt it is identical with the "periostitis" described by Fourier.

In this case, if juxta-articular arthritis which lead to the arthritis deformans type, the bone are of course affected secondarily to the joint involved.

Mucous

The mucous seem to be occasionally affected. According to Farmer myalgia is very common in juxta-articular phenomena. He also states that actual inflammation
of a muscle may take place. He cites an interesting case of inflammation of the Biceps associated with shoulder joint affection. Later the same patient developed inflammation of the Triceps in the other arm.

**Nervous System.**

Former noted 5 cases of sciatica in a series of 39 cases of psoas real plexusitis. Lysholm (Landeswitz & Bang) each describe a case where after an attack of psoas real plexusitis developed. In the case of C. H. the 6th nerve on the left side was affected. Slight derangement was noted in this case. Crowns noted a case of acute ascending myelitis which followed an attack of pneumonia. Various obscure spinal symptoms have been noted which might possibly have some connection with pneumonia.

**Heart.**

Brandes of Copenhagen in 1854 was the first to draw attention to the
possibility of pneumonia affecting the heart. He described 2 cases of pneumonia followed by endocarditis and pericarditis respectively. Rosen in Ziemssen’s Cyclopedia (Vol. VI) denied that pneumonia can affect the heart. Senator in the same work (Vol X VI) says that when the heart is affected in a supposed case of pneumonia endocarditis, that we are really dealing with an ordinary case of pneumonia accidentally connected with pneumonia. Elagin in states he found records of 31 cases and considers that it must be accepted that pneumonia may attack the heart. This view has been practically corroborated by Combest, Leyden, and others who have actually demonstrated the presence of the four coccius in the heart. The symptoms are similar to those we get in ulcerative endocarditis. Farre noted the appearance and disappearance of a murmur during an attack of pneumonia. It seems however that in a
certain proportion of cases the question of a mixed infection came in. Bly reports a case where he found the ordinary septic organisms in a case of ulcerative endocarditis following gonorrhoea.

It may be accepted then that gonorrhoea may set up 1) an ulcerative endocarditis of the septic type similar to what takes place in the acute infectious diseases, such as septicemia, diphtheria, pneumonia, diphteria etc., and 2) a simple or ulcerative endocarditis due to the invasion and growth of the gonococcus itself in the heart.

In some of the cases no joint affection showed itself. Macdonell of Montreal records 4 cases of endocarditis in 29 instances of gonococcal phthisis. He, however, draws attention to the fact that we must be careful to exclude the possibility of genuine phthisis complicating gonorrhoea, and also to be careful in excluding functional murmurs which may be due to anaemia and debility, a
conditions not uncommon in cases of sun-

-membrane.

Robert's has already been men-

-hanced. Bordoni-Uffenbergi has recorded

-a case of sunmembrane pleurisy.

Eye.

Inflammation of the eye have long been

-mentioned as symptoms of systemic sun-

-membrane infection. Freeman added 15-

-cases with eye affected in a series of

-39 cases of sunmembrane phenomena.

Sclerosis has been recorded. Iritis is also

-uncommon - in fact Griffiths, in a paper

-before the Harvard Society states that sun-

-membrane is the common cause of iritis

-and that syphilitic iritis was not nearly

-so frequent. He described a case of iritis

-in one eye due to primary sunmembrane

-in the other.

Coryzae is seen to be fairly common.

-It must not be mistaken for the primary

-sunmembrane phthisis due to direct-
Enoeulism. It may be compared to
the serous or rheumatic enoeulism.
It is frequently associated with some joint
manifestation of smorhoa.

Gonoccal septicemia.

Rare cases have been recorded where
a patient, a few days after contracting
a gonoccal septicemia, is seized with pyrexia,
high temperature, and gradually passes
into a hypostatic state, death taking place
in a few days. These cases are probably
not specially due to the gonococci, but
are rather of the nature of septicemia
arising from the continued inflammation of
the medulla, just as it might arise
from any other suppuring focus.

Diagnosis. Generally speaking an inflam-
mation of one or two joints with a history
of gonorrhoea is sufficient to suspect
the nature of the disease. Unfortunately,
the initial difficulty of getting a history
of gonorrhoea adds greatly to the diffie-
ally of feeling to a diagnosis. This is quite obvious in the case of women, who are so frequently the subjects of various disorders from the period again. Possibly many cases of gynecological phenomena are overlooked in the case of women.

Indeed, many cases of gynecological phenomena are treated in the first instance as cases of ordinary rheumatism.

The clinical course, however, is different and usually leads to a more correct opinion. The absence of acute tenses, the slight temperature if any, and the tendency to affect one joint and remain for a prolonged period, are points which differentiate it from ordinary subacute rheumatism. The joints are less affected in the erratic fashion which is so pronounced in articular phenomena.

Again the disease does not react to anti-rheumatic remedies. The occurrence of iritis with inflammation in one or two joints is very suggestive of gynecological rheumatism. In some, or again inflammation in a joint such as the sterno-clavicular, which is never
affected in ordinary rheumatism, would at once point to a correct diagnosis.
In those "arthritic" cases where the patient's complaint seems out of all proportion to the objective signs, a suspicion of gout should always arise.
It is however always possible to have genuine articular phenomena occurring during an attack of gout. Again, a condition may be due to both, and if the joint condition happens to affect a joint as well, it is possible to mistake the disease for gout and rheumatism. Examination of the discharge for pyococci should always be done in doubtful cases.
Aspiration of the joint and examination of the contents may reveal the pyococcus, or the character of the fluid as laid down by Hashlund may assist.

Proposits. The propositus as regards life is good, but as regards the ultimate care of the joint should always be a guarded one. Ankylosis is always a possible result and the patient should always be informed of this.
Treatment

Before proceeding to discuss the actual treatment of the disease a word should be said regarding the possibility of preventing syphilitic infection. It is not possible that there is some fault in our method of treatment of gonorrhoea which would explain the occurrence not only of gonorrhoeal phimosis, but of other complications as well. Probably 50% of patients with gonorrhoeal phimosis consult the surgeon for the affection alone without making any mention of the discharge from the urethra. This latter has probably been treated at home as a rule, supplied by a friend or else by a quack, which usually include the use of the syringe. Even amongst medical men there is too much anxiety to see the discharge disappear. Hence strong chemical injections are used and remedies such as sandalwood oil, eupcatia, and firm internal possess in large doses which themselves tend to keep up the congestion of the urethra. Apart from the purely irritating and desectant power of the injections, the mere mechanical
effect of the syringe will be to flush the virus further into the uterus. Even with the so-called "flush back" syringe, which has to be pushed well home in the first instance, extension of the disease is encouraged. The syringe will inoculate the virus into the fundic part of the uterus which is not affected by the cirrhosis in its return down the uterus. Besides, how many patients keep their syringes clean? So much attention is paid to the local condition that general principles such as rest and diet are often lost sight of. Nearly all "claps" are treated while the patient goes about his usual business. If he had happened to have an inflamed sore on his leg he would have probably been recommended to rest his limb. Why turn in journoves? The same principle of relieving congestion in the leg should apply to the uterus which is just as vascular and dependent. Regarding diet I restricted animal food as much as possible and administered a liberal milk diet with a plentiful supply of thin fluids such as barley water, soda
washes. This ensures a thorough flushing
of the inflamed canal - a vis a tergo, rather
than the syringe principle of a vis a specie.

The exclusion of animal food and alcoholic beverages
renders the urine bland and suitable
for urinary purposes.

Medicinally I give an alkaline mixture
containing Bicarbonate of Soda with Hyoscyamus.

A urinary antiseptic such as Salol or isonic acid
might be advantageous. Some mineral
water - such as Huyzadis Dair is suitable
to an period to keep the alinity - bacteri-
clear.

Undoubtedly in civil practice the principle
of pent is a difficult one to carry out. Nevertheless the advantages of it should be
explained to the patient. In military life
it should be an easy matter to carry it out.

Statistics from military hospitals where all
cases of pneumonia were kept recent and
under supervision tended to indicate ready

In one case in particular I noted
a rapid case of pneumonia contracted 3 days
before the patient broke his leg. In 14 days
the discharge had completely disappeared.
He had had no special treatment except rest in bed.

Regarding the treatment of purulent rhematism we have to consider the discharge, the general condition, and the local manifestations. A great deal is principally made of the secretion of the internal to the discharge. Some authorities urge vigorous measures to "cure" it, while others suggest mild irrigation of the wound. I think that if the case is dealt with on the principles already laid down, nothing more need be done. If arthritis of the knee be developed, the patient is generally resting and this in itself is sufficient to lessen the discharge. Dr. Christophel states that he "lays no attention to the discharge." Personally I think that the general condition is attended by too rigorous measures used in the matter. The vitality of the mucous membrane is still further reduced, more pus cocci are absorbed into the circulation and the disease continues. Whatever is done to the matter the better. Medicinally, alkalies and tinctures of soda...
are useless. Excepting quinine, which is strongly recommended by Heath, no drug is of any avail. Heath gives quinine in small dose every 6 hours to effect in septic disease of the blood, such as typhoid fever, septicaemia, etc., and at least support its use in septic local phenomena. In many cases it has no effect whatever. In chronic cases, he states that quinine might be tried. Herschell recommends External application.

An antitoxin founded on accurate pathological knowledge should be an ideal remedy. De Christmas in the Ann. de l'Institut Pasteur 1897 states that he obtained an antitoxin for serum which he thinks may be of use.

Where much pain is present, quinine should be given in sleep.

Local treatment - Bearing in mind the great tendency of antitoxin to deposit, the practitioner must be early prepared to adopt measures not only for the reduction of the inflammation, but also to prevent the possibility of antitoxin taking place. The joint must be rested and if necessary placed in a splint so that the joint may
be in a useful position suffering any pain. Take place. In the knee, in the same manner.
form of pronounced phenomena, the pain is often to recall that the patient feels the limit to ease the pain. It should, preferably be placed on a splint with, if necessary, the weight and pull, when the limit has no tendency to return to the flexed position. So a Mackenzyo splint may be used which gradually brings the limit into the extended position.
Some authorities recommend cold to the joint in the severely inflamed variety. This can be done with an ice bag, Leiter's coil or evaporating lotion. This recom-
mended heat. Stewart (Montreal) found the Tellerman hot air treatment of great value in his hands. He recommends sit-
tings of half an hour at a temperature of
300° F. Leeches are recommended and the
five relief. Gillies recommends carbolic acid if suspected into the affected joint or parts. The constant current has been recom-
mended by German Surgeons. Jeffrey first
advised it in 1851 with 20 to 40 clancs. Recently, Delhomb tried it on 6 patients, and
affected with muscular arthritis. Complete care resulted after 2 to 6 sitings of 15
milliamperes. No after stiffness took place and the muscles were not atrophied.
This treatment is worthy of further trial.
In chronic cases, massage, passive movements,
and good firm bandaging are most useful.
Contre-irritation with iodine, thiosulphate.
and Paget's canthol may be tried. Scott's
dressing is often used.
In these cases where ankylosis has
taken place it may be necessary to break
down adhesions under chloroform. If
the adhesions are extra-articular good
results may follow, but if the ankylosis
is inside the joint the condition may
return and is a matter of fact is often
immediate. There is also a certain amount
of risk in forcibly breaking down ad-
hesions.
Regarding those rare cases which
suffocate, a free opening and drainage
is the correct treatment.
When generalised phlegmon affects the
heart, the eye, and the joints, their points.
The disease is treated on general principles.

Operative measures for joints.

Bearing in mind the great fear of arthritis in this affection, and short of
this, the often prolonged period before complete
resolution takes place, it is not surprising
that surgeons should have turned their
attention to operative measures. In the
Annals of Surgery 1838 Vol I O'Connor of Buenos
Aires describes 3 cases treated by incision,
irrigation with 1 : 5000 Benzoate of Soda and
large drain. Complete recovery in all 3
took place within one month after operation.
He lays stress on making the opening
large enough to admit the finger so
that the flakes of fibrous may be removed
from the recesses. In Curdy (Annals of
Surgery 1838 Vol II) advises early aspiration
and irrigation with Bichat's Solution
followed by injection of Karst's emulsion
which is left in the joint. He considers
that early operation prevents rather than
increase the danger of arthritis.
(Boston Medical and Surgical Journal, Dec. '58) described a case treated by irrigation with normal saline solution. O'Leary also notes that he had seen good results following incision and drainage.

Undoubtedly where there is any effusion into the joint the most rational plan seems to be to open it and drain. In those cases where expectant measure, are adopted and resolution gradually takes place after many months, it would be acting more in the interest of the patient if we operated. In O'Conor's case the joint was absolutely well within three months. The majority of cases of gonococcal arthritis are in patients under 40 so that the risk of ankylosis as a result of the treatment is practically nil. In individuals over 50 it would probably be wiser to continue with expectant treatment unless the inflammatory process was of such intense a character that disorganization would be inevitable. Even in these latter cases recovery with a stiff joint might be more rapid after incision than otherwise.
Note: While I was finishing this Thesis, I attended the following case:—On the 10th of March, I confined Mrs. C. of a healthy male child. On the 12th, the mother drew my attention to a discharge from the eyes. She informed me that she had had a discharge from the vagina for several months. Later the husband admitted that 6 months previously he had had pneumonia. The ophthalmia was a very severe one. The eyes were treated by spraying with 1 in 5000 Bismarck Brown every 2 hours night and day. The child was 15 days old. It developed a well-marked syphilitic of the right knee. I sent the case to Mrs. Simons Snell, who examined the discharge from the eyes for gonococci with negative results. Probably the gonococci had been destroyed by the antibiotic. Was the syphilis due to the previous syphilitic of the eyes? The joint is now much better (April 12th). The condition must be exceedingly rare. Mr. Snell in his extensive eye experience had never seen a case previously.
As O'Connor puts it "when we meet with a decoction of streptococci we rush to operate, but when we encounter a decoction of staphylococci we hesitate because we entertain some fear of merely opening and draining a non-jaundiced joint."

In children the question of operation would not arise as the condition seems to be a transient one without any after effects.

References.

Bell, Lancet 1848 Vol I. P. 173.

Brodie, t. of Dublin 1850. P. 43 et seq.

Herringshaw, Medical Times 1858 Vol II. P. 41.

Rollett, Medical Times 1859 Vol II. P. 41.

Elliston, Medical Times 1860 Vol I. P. 643.

Fourmier, Raukin's abstract 1869. P. 155.

Gurney, Lancet 1871 Vol II. P. 909.

Bell, Lancet 1872 Vol I. P. 396.

Goschen, Medical Times 1877 Vol II. P. 472.

Besson, Medical Times 1877 Vol I. P. 584.

Hardy, Medical Times 1878 Vol I. P. 123.


1884 Vol II. P. 209.
Herschell. do. 1882. P. 5-12.
Kammer. do. 1884. P. 306.
Leyden. do. do. do. P. 103.
Ward. B.M.D. March 30, 1901.
Herman. do do do 429
Sturgard. do do 1901. 357
Francis Anatomy. - Description of another. - Approx. 100.
The article on hemorrhoidal phenomena in the
following works:

Barwell. Diseases of Urine 1860.
Taylor's mental diseases. Kneiss. 1901.
Allhat's System of Medicine - aided by Earrod.