Thesis
Subacute Rheumatism.

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Subacute Rheumatism

Under this heading I include a series of cases which, although I think they are of the same nature as Acute Rheumatism differ from it:

1. The more gradual onset of the symptoms.
2. The moderate degree of fever present.
3. In being even more liable to relapse, not so much as a general affection but in some particular joint.
4. The tendency of some recognised cause to bring about the return of the disease in some particular part e.g. dampness in the diet, overexertion.
5. The peculiar liability of children to this affection.

The onset of the attack in most of the cases was gradual for some days a feeling of general malaise, loss of appetite and sleeplessness. A feeling of stiffness in some particular joint or muscular structure, the most commonly affected joint being the ankle, the elbow, and the knee; of other parts
the tendons of the hamstring muscles, the insertion of the tendo achilles, and in two cases the fibrous tissue in the sole of the foot causing similar pain and discomfort to flat foot. For the first few days this pain is felt worst on rising from bed in the morning is relieved by exercise, and is not felt during the day while the patient is moving about, but if a prolonged rest is taken the pain and stiffness returns on again beginning to move. This pain and stiffness gets gradually worse and if the patient does not take to bed but tries to go about, by the end of the week the pain is not relieved by exercise. We may complain of severe pain in one particular joint or tendinous structure and in addition vague pain may be felt in other joints. The patient begins to feel ill. His temperature will be found to be raised to perhaps 101. On examination the joint he complains of will be found to be slightly swollen
and tender and showing evidence of containing fluid. In the case of
tendinous structures, the tendons of the hamstring muscles can be felt to be
swollen and tender to the touch. In
two cases distinct swelling could be
felt on the sole of the foot.
As a rule by the next day unmistakable evidence of a general attack will
be seen in the swelling of other joints, the elbows, ankles and wrists being most
commonly attacked. The temperature
during this time will be between 100° - 102°
in some cases as high as 104° but in
Sub-acute Rheumatism it rarely rises
over 102°. For two or three days under treat-
ment the general affection of the joints
will have subsided, but one or two
joints still remain swollen and tender.
In the majority of cases the joint which
remained affected was the wrist with
often one or two of the knuckles, the
joint which was first attacked usually
the knee or ankle having by this time
recovered. The temperature by the end
of this second week will have fallen perhaps to normal with a rise from 99° to 100° in the evening in some cases. The pain and swelling in the joints gradually subside - the evening temperature becomes normal and by the end of the second week in ordinary cases the patient feels quite well except for general muscular weakness. This was the course of events in the majority of cases in which no heart complications occurred but in several cases the duration of the joint symptoms was much longer in one case lasting as long as two months with a temperature varying between 99° 5° and 101°. Relapses were of frequent occurrence, after the patient seemed quite well when a sudden return of all the symptoms took place. The joints became swollen as in the first attack but as a rule the attack was not so severe or of as long duration as the first attack. The cause of the relapse in
Some cases were getting up too soon but in many no cause could be determined.

Heart affection—In more than half the total cases the heart was affected. Age seemed to have a marked influence in determining the liability to cardiac affection, as it occurred in children in a much greater proportion than in adults. This liability of the heart to be attacked is similar to what is found in acute rheumatism. In Tegg's Practice of Medicine the following figures are given in regard to the frequency of cardiac affections in acute rheumatism. Mr. Maister and Mr. Shadwell collected 500 cases for Mr. Tegg from the Clinical Records of Guy's Hospital and of these only 221 were free from Cardiac Murmurs. At St. Bartholomew's Hospital out of St. Chuwel's 574 cases the heart was affected in 371. The increased liability of the young is also shown from St. Bartholomew's Hospital Reports Vol. XXIII p.273. The percentage of
cardiac affections in successive decades from under 10 to 50 years of age and thus - 83-69-5130-21.
The occurrence of cardiac affection did not seem to have any ratio to the severity of the joint symptoms, in fact, cases in which joint symptoms were of longest duration were remarkably free from cardiac complications and others in which perhaps only a single joint was affected for a few days developed a well marked initial murmur. The usual time for the heart to be attacked was the end of the second week just as the joints were almost well. The onset in the majority of cases was not marked but in several cases a rise of temperature was noticed without any additional pain in the joints; in others some pain was complained of in the precordial region and evidence of cardiac dilatation with weakness and increased rapidity of the pulse could be detected. In all cases the initial
Value was the first attacked. On palpation the cardiac impulse was found to have approached the nipple line indicating some dilatation of the heart. At first on auscultation a mere loss of definition of the first sound with some accentuation of the second sound was noticed but in a few days this developed as a murmur into a distinct Mitral Septic Murmur conducted into the axilla. In several cases this impurity of the first sound never developed into an actual murmur but gradually disappeared. In only three cases did the Aortic Valve become affected and this did not occur until after several definite attacks of Rheumatism, all cases were in young girls aged 6, 14, and 15 years. M. S. aged six died of an attack of Septicemia one year after the original attack of Rheumatism, the other two cases died of secondary heart mischief with general dropy and failing heart.
In the majority of the cases with the exception of the above three cases and one other case the heart affection disappeared with prolonged rest in bed for periods extending from two to four months and suitable treatment. Several cases after apparent recovery on some slight cause, such as getting cold, although no definite sign of rheumatism could be detected showed a liability to some return of heart mischief, manifesting itself in shortness of breath and rapidity of the pulse without any murmur being present. This condition was probably due to some dilatation of the heart and speedy recovery took place with rest in bed and administration of digitalis.

Pericarditis occurred in three cases one of which had considerable effusion in the pericardium but it became absorbed in time.

Erythema nodosum developed in
Several cases in the course of the illness, there were others in which the first sign of Subacute Rheumatism was the appearance of Erythema nodosum after some days of general malaise. One particularly severe case occurred in a young lady. The following is the history of the case. E.S. aged 20—a strong, healthy young woman had been nursing her sister who had been ill for a year. She told me that she had been in bed for a week; she thought she had overexerted her strength and felt so tired that she could not get up. She had complete loss of appetite and felt ill although she had no pain anywhere. On Thursday when I first saw her she had noticed some painful patches on the legs and also complained of sore throat. On examination temperature was 100°—well marked patches of Erythema nodosum on the skin over the front of both tibias—tongue dry, mouth in a foul condition, and pillars of fauces swollen and deeply
Congested but no ulceration present. She also complained of deafness and constant noises in the ears probably due to some impaction of the Eustachian tube - no pain in any joint. I ordered Sodium Salicylate gr X every four hours - a Bicarbonate of Soda and Aquathera mouthwash - Rest in bed, milk and alkaline drinks.

Friday - Temperature 101° Throat intensely congested and pillars of fauces much swollen, mouth still very foul and tongue dry and furred. The patches of erythema nodosum on the front of the legs had coalesced and peel patches had come out on the top of the feet, knees and outside of both thighs, one very large patch as large as the palm of the hand was over the trochanter of the femur. The patches were bright red and very painful and tender.

Saturday - Temperature 100° Throat somewhat better - noises in the ears still troublesome - had some sleep during
The night. The joints had now become painful. The knee joints were both swollen and tender and showed signs of an attack of subacute rheumatism. The patches of erythema were still more marked and new ones had developed on the back of the hand, upper arm and top of the foot. On the hands and feet the patches were small being only about half an inch in diameter.

Sunday. Temperature 99.8 felt somewhat better much cleaner taking milk well but no desire for food. Joints still painful but right knee very painful and swollen - homens patches of erythema had developed and others showed signs of fading.

Monday. Temperature 101. Joints all rather better except the right knee.

Tuesday. Temperature 105. Right knee now feeling better but left knee, left ankle and left wrist very painful and swollen.

Wednesday. Temperature 99.8. Throat
nearly well - tongued moist - patches of erythema nodosum had nearly faded and they had lost the feeling of tenderness to the touch. During the next week the course of the case was the usual one of subacute rheumatism, temperature between 99° - 100° by the end of that time all joint symptoms had disappeared but still considerable pain and tenderness behind the left knee in the tendons, and at the insertion of the left tendo-Achillis. The heart was not affected. In this case it is interesting to note the occurrence of a week of general malaise before the appearance of erythema nodosum and that no joint symptoms showed themselves until two days after the patches appeared. The Sorellitis was also in my opinion distinctly rheumatic. The whole case exhibited the signs of the system being poisoned by some general irritant. The sequence of the different parts affected is noteworthy - the skin.
digestive organs—throat—joints—and
lastly the tendinous structures while the
heart in this case was not affected.
Although I have seen Erythema Nod-
-osum without marked joint symptoms
yet in the majority of cases even when
the disease is limited to a few patches
over the skin on the front of the Tibias,
there is usually complaint of some joint.
The fact also that they have occurred
in so many cases of Subacute Rheum-
atitis and that Sodium Salicylate
as a rule in a few days relieves the
pain and the patches disappear; but
that joint symptoms as in this par-
ticular case persist for some time
afterwards.

Sweating in the cases under consideration
was not a marked symptom, but
under treatment with Salicylate of
Soda after about three days sweating
would be produced and it was a
noteworthy fact that whenever this
began the pain in the joints became
less, each dose of medicine being followed in about fifteen minutes with profuse perspiration. The relief in my opinion being due to the excretion of some irritating material from the body in the sweat. The odour of the sweat was similar to that which occurs in the usual cases of acute rheumatism.

Urine at first scanty and highly acid and loaded with urates but as the patient recovers it becomes greater than normal in amount largely due to the quantity of fluid taken.

Bowels constipated and tongue furred with complete loss of appetite and no great thirst. The condition of the tongue in several cases gave much distress being of the peculiar foul condition one sees in the late stages of a severe case of typhoid fever. Tonsillitis was present in a number of cases.
nervous system - sleeplessness was a common symptom due to the painful condition of the joints but in addition I think that it was aggravated by the circulation in the blood of the products of defective metabolism being comparable to the sleeplessness which is so often met with in Chronic Bright's disease. In support of this before the actual joint symptoms developed many of the patients complained of sleeplessness for nights and even after the joint symptoms had subsided, it persisted in several cases. Occasionally before relapses occurred it was a noticeable symptom probably an indication of the above mentioned condition of the blood.

DURATION - In the majority of cases in which no heart symptoms had developed and when the disease was not followed by any relapse the patient was practically well by the end of the third week, although several cases lasted as long
as ten weeks one or two joints being affected most of the time and the temperature ranging from normal to 100° 5.

If heart affection developed the recovery was necessarily more prolonged with occasional relapses, but seldom so severe as the original attack. In nearly all my cases the heart recovered in three months when no murmur could be detected. After apparent recovery even in those cases which had no complications most of the cases suffered from what might be called "Reminders" for months after wards. This consists of pain in some particular joint or other structure; it differs from a relapse in the attack being limited to one part—no elevation of temperature and the rapid recovery usually taking place on removal of the cause and under treatment. The direct cause seemed to be some material circulating in the blood and acting as an irritant to
tissues whose vitality has been lowered.
The following are the causes which seemed to bring about the occurrence of those "Reminders":
1) weather - actual rainy weather did not seem to have so much effect, but most cases complained of pain in damp weather when rain had been threatening for some days.
2) Errors in diet - indigestible food - excessive amount of nitrogenuous matter, fats and sugar, seemed to have a tendency to bring on these Reminders; in some cases a mere excessive amount of food, even of the lightest and most easily digested character, seemed to have the same effect. In regard to Alcohol most of the cases were too young to take this, but in several older patients the taking of Alcohol, in any form and even to a limited extent, was followed by some of those Reminders, probably due to some retardation of tissue change.
(3) Exercise - If a patient walked too far or did too much work in a day it was fairly certain that next day some of those Reminders would be present, but it was a curious fact, that if the exercise was violent enough to produce excessive sweating it did not seem so liable to cause those Reminders. The sweat apparently helping to carry off the waste products produced, and in addition the kidneys were stimulated by probably a larger amount of fluid having been taken to allay the thirst caused by the excessive amount of fluid excreted by the lungs and skin. Those Reminders occur in all situations the following are the positions in which they are most commonly found:

- Insoles of the feet, apparently the fibrous tissue of the sole of the foot is affected, the patient complains of pain in the sole of the foot, says he feels as if he were walking barefoot on a narrow rod of iron. The pain
is very similar to that complained of in flatfoot. On examination there is a slight swelling of the sole of the foot and it is tender on pressure. The tendo-achillids at its insertion into the os calcis, pain and stiffness is felt on walking, and on examination it is found to be swollen and tender. The hamstring muscles behind the knee, the affection here is not so much at the insertion of the tendons into the head of the tibia as in the tendons themselves about the middle of the popliteal space. Joints - the smaller joints especially of the fingers become swollen, stiff and tender, the larger joints, especially the elbows, knees, and wrists do not seem to be so liable to be attacked. Bursae - in one case the Bursa over the Olecranon became tender to the touch; in a few days it became swollen to the size of a pigeon egg; as pressure with cotton wool and an elastic bandage had no
effect, it was aspirated, and two ounces of blood stained fluid was removed, after which pressure was applied and it gave no further trouble.

The subcutaneous tissue also was frequently affected. This could be readily seen in the ends of the palmar aspect of the fingers. The patient first complained of tingling in the end of the finger and in an hour or two fluid could be readily seen under the skin forming a blister, this becomes absorbed again nearly as rapidly as it is formed.

These Reminders are in my opinion caused by some irritating material circulating in the blood due to some faulty chemical metabolism and this sets up irritation in a part whose power of resistance to an irritant has been reduced from weakness and overwork the soles of the feet, the palmar aspect of the fingers—hamstrings muscles—mention of tendo achillis joints of the fingers are all parts which have a
constant strain put upon them in the ordinary business of life, parts like the elbow joint and the wrist although they seem to be favourite positions for Rhenanias to affect primarily do not seem to be so apt to be attacked by Reminders, as those joints have not such a constant strain put upon them.

Causes—Climate. Any hope in which all the cases live is a collection village of 10,000 inhabitants on the east coast of Durban. The weather here as a rule is dry and cold, the soil is gravel, in addition the village is built on a hill so that in a few hours after heavy rain the roads are dry, but the winter of 1903-1904 was exceptionally wet in this place and the majority of cases occurred then, the rainfall was not so very much in excess of the normal but there was a constant dampness in the atmosphere.
Rheumatism is a rare disease here, even chronic Rheumatism which is so common in old people being seldom met with.

Age - the majority of the cases happened in children under fifteen years of age.

In no case could a definite cause be given for the attack. Some cases attributed it to cold, others thought that they had had an attack of influenza and gone out too soon but in every such case the patient admitted that before the influenza attack there was pain in some particular joint and this stiffness and pain had persisted after the influenza attack in some particular part. In my opinion those cases were not influenza but the onset of subacute Rheumatism.

It is a noteworthy fact that out of 1000 men working in the pit who are patients of mine only one case of subacute Rheumatism happened.
and this man was not a Coal-hewer subjected to the heat of the pit. The conditions of work in a coal-pit in this particular place would at first-light seem to favour the popular idea of the cause of Rheumatism, as men are in the pit subjected to heats and cold. The men here, when they go down the pit, remove their clothes except their stockings or shoes and a thin pair of short drawers. The temperature in the pit is very high, profuse sweating while at work occurs and the men drink large quantities of water, while at work two quarts being about the average. When returning from work it is the custom to walk naked for most of the distance underground to the Shaft, in many cases as far as three miles before again putting on their clothes. The incoming current of air with which they meet on their return journey is very cold. The above conditions a man sweating profusely.
exhausted after his day's work and meeting a current of cold air while not protected by clothes would seem to favour the occurrence of Rheumatism but such is not the case here. On investigation of the mode of life of the various persons who were attacked with Subacute Rheumatism the striking fact was elicited that most of them were in the habit of drinking very little fluid, many of the cases never at any time drink water or other fluid to their dinner and some cases took as little fluid as half a pint in the twenty-four hours. An additional factor was that with the exception of one case and he only to a limited extent the people affected with Subacute Rheumatism had no artificial stimulation of the sweat glands such as the heat of the pit produced in those who worked there. The thirst caused by the excessive sweating demanding water to be taken would further help...
to flush out the system and avoid any accumulation of waste products in the blood.

Hereditary seemed to have a marked effect as in several cases more than one member of a family were attacked at the same time. Two of the most prolonged cases were a brother and sister aged six and nine years, both took ill within a week of each other, and both were confined to bed for ten weeks, neither of them developing any cardiac symptoms.

In none of the cases was there any indication that the patient was in the habit of taking an excess of non-nutritious food.

A strange fact was that without any exception, the cases happened in people who had comfortable homes and who were well and warmly clad and well fed.

The common factors in all the cases which occurred here were

1) The damp winter of 1903-1904 with
an unusual atmospheric condition in this place, having instead of cold
blazing winds, damp and foggy weather.
(2) The peculiar habit of the person
drinking very little fluid and people
whose skin did not act freely.
The direct cause in my opinion of
this subacute Rheumatism was
an accumulation of waste products
in the system due to either defective
metabolism or deficient excretion
or perhaps in some cases to both
causes acting together. In support
of this theory the following facts were
observed.

1) That none of the cases had any
return of Rheumatism during dry
weather, but in damp weather,
especially if it should last a few
days, they were liable to be attacked,
actual rain did not seem to have
so much effect as dampness in
the air before the actual downpour
of rain.

2) Immediate relief could be given
to any return of the pains by subjecting the patient to dry heat sufficiently intense to produce excessive sweating, the best of all means in my experience being an application of dry heat called the Dowson's Radiant Heat Bath.

3) In some cases this Rheumatism could be brought on again by a heavy meal of nitrogenous food in a patient who was being kept on a fairly low diet. In twelve hours relief of the pains could be given by a brisk mercurial purge followed by Bicarbonate of Soda in 31 doses every four hours.

4) In giving Sodium Salicylate in these cases of Subacute Rheumatism no relief was felt until the skin began to act. In addition Sodium Salicylate has a stimulating effect upon the Liver and Kidneys thus further assisting the getting rid of waste products from the system. Bacterial origin. Rheumatism has
been attributed by some to a germ and Diplococcus Hemolyticus has been found by some observers in the blood and in the endocardium. The disease is supposed to be due to the production of Formic Acid by these. There are many facts in the clinical history which are against the germ theory and which do not agree with the rules required to prove that a disease is due to a specific microbe. Take for example this place (Hythe) for the past twelve years I have attended personally a population of over 7000. Rheumatism is a rare disease here except in the winter of 1903-1904 when I had twenty-three cases. The determining cause of this outbreak here seemed to be the damp weather acting on persons predisposed to the disease, or whose mode of life favoured an accumulation of waste products in the system. In addition the occurrence of those "Reminders" as the result of
a definite cause such as change in the weather—overfatigue or error in diet could hardly be attributed to microorganisms.

Diagnosis of this condition was not always simple, many of the cases looked like influenza but as a rule although the patient felt ill as in that disease, there was no marked pain in the eyes, and if pain in the back was complained of in subacute rheumatism, it did not show itself until after the patient had been in bed some days and was merely a manifestation of the general rheumatic condition. The marked sign which differentiated it from influenza was the complaint of pain in some particular joint which on examination would be found to be swollen and painful.

Two of the cases looked like ordinary cases of flatfoot, the patient complained of pain in the sole of the foot
just as in the early stages of flat-foot he had no temperature and went about his work walking lame for several days, the pain became gradually worse and swelling and tenderness could be detected in the sole of the foot — slight rise of temperature developed and then the elbows and wrists became swollen and tender, after which the diagnosis was simple.

Gout can be put out of account
1. The early age of the patient.
2. The situation in which it occurs.
3. The tendency of Rheumatism to shift from joint to joint.
4. The nature of the pain — in the early stages of Subacute Rheumatism while the patient is resting the pain is not troublesome, it only comes on when the patient tries to move.
5. The skin is never reddened in Subacute Rheumatism over the joint. Acute Osteomyelitis — in this disease the constitutional disturbance is
greater temperature higher tenderness is more marked redness and swelling may be seen over the bone. As a rule osteomyelitis attacks the shaft of bones, but I have seen one case in which it attacked the head of the fibia, and at the very first stimulated Rheumatism as effusion had taken place in the joint without any redness.

Pyoderma - in this disease there is also greater constitutional disturbance than in subacute Rheumatism and swellings do not shift from joint to joint as a rule as in Rheumatism.

Treatment - The patient should be put to bed at once in a warm well-ventilated room. He should be clothed in flannel and be between blankets.

Diet - while the temperature is raised and the general affection of the joints is present the food should be
confined to milk with soda water or as recommended by Barneby use milk and water in equal parts with Bicarbonate of Soda gr. xx - gr. xx added to each pint. He should be encouraged to drink as much fluid as possible, in an adult at least three pints of milk with an equal quantity of soda water in twenty-four hours. In addition other fluids, water, whey, barley water, lemon water, and soda water may be taken ad libitum. For the first fortnight nothing more is required but if the temperature still keeps elevated and the patient digestion can stand it they are as a rule the better of some farinaceous food such as bread, oatmeal porridge, rice, tapioca, sago, cornflour or arrowroot. Such fruits as grapes and roasted apples may be allowed but an excess of sugar should be avoided.

After the first fortnight in cases in which the temperature had become
normal and joint symptoms had subsided, the above diet of starchy food with fruit was given in larger amounts always avoiding excess of sugar. After a week of this diet, if no return of symptoms showed themselves, eggs, fish, chicken or game with vegetables was carefully added to the diet. At the end of four weeks after the onset of the disease if no joint symptoms or evening rise of temperature had developed for a fortnight, and if no heart complications had occurred the patient was allowed to get up for an increasing time daily.

During convalescence it is important to make certain that a large amount of fluid is still taken and that the bowels and kidneys are kept active. The drinking of a large amount of fluid with meals may cause indigestion in some cases, in which cases fluid may be taken either before breakfast, or the last thing at night before going to bed. This light diet was continued for another
mouths but in gradually increasing amount, and the patient was allowed to walk about whenever he was strong enough. After another week he should be able to be in the fresh air. Exercise should be taken very gradually and the patient never allowed to fatigue himself.

The diet for months afterwards must be carefully regulated, and although the patient should have sufficient to nourish him, yet the ordinary diet of a person in comfortable circumstances especially in England is much in excess of the requirements of the system. The following was the dietary which was recommended, but of course it had to be modified according to the circumstances of the patient. Each case needed individual study as an apparently suitable article of food disagreed with some.

The following articles of diet should be avoided - pork, ham, anything fried or cooked in fat - fat beef or
mutton - twice cooked food - highly seasoned dishes such as curries -
rich soups or highly nitrogenous soup such as lentil or pea soup -
duck -
geese -
Salmon - Mackerel - Shellfish -
Raw apples - Beans - Peas - Radishes -
parsnips - Celery or Cucumber uncooked -
Pasty - Cheese - Sweet meats - Cakes - new Bread -
Patients may take - Beef or mutton roasted or boiled - Clean soups made
from meat bones with vegetables in them if desired - Fish, Tomato, or
Chicken soup - All white fish - game -
Chicken -
Vegetables - Potatoes - Spinach - Cabbage -
Brussels Sprouts - Lettuce - Boiled
Celery - Cucumber or vegetable marrow.
Bread at least one day old.
Oatmeal Porridge - all milk puddings
such as rice, tapioca, cornflour, etc.
Uncooked fruit must be taken with
cautions but cooked fruit such as
apples agrees well with most people.
Eggs lightly boiled, poached, scrambled or in custards and puddings.

The following is a suggested dietary:

**Before Breakfast** if the bowels tend to be constipated half a pint of water with some saline in addition if necessary.

**Breakfast** - Porridge (of oatmeal or Quaker oats) followed by one slice of bread and butter - one egg or boiled fish - half pint of weak tea or coffee.

**Dinner** - best taken in the middle of the day. One pint of thin soup. The large quantity of soup is important as it satisfies the appetite.

One small piece of meat or its equivalent of fish, chicken or game, potatoes and vegetables, half a pint of water, milk pudding or stewed fruit, tea - one slice of bread and butter with jam if desired, half a pint of weak tea.

**Supper** - half pint of milk with an equal quantity of soda water.
or boiling water, one slice of bread and butter, one egg or its equivalent of fish or chicken.
No stimulants are required, in fact as a rule they are injurious.
Meals should be taken at regular times, be small in amount, even food of an easily digested nature and suitable for the patient, such as boiled rice is injurious if taken in excessive amount. In practice I have found it as well to specify approximately the amount to be taken e.g. two potatoes, one tablespoonful of green vegetables, two tablespoonfuls of milk pudding. Too much variety must be avoided as it stimulates the appetite and makes the patient more difficult to satisfy. In my opinion the great aim in the dieting after an attack of Subacute Rheumatism is just to have sufficient food assimilated to nourish the body and avoid any accumulation of excessive waste in
DRUGS—practically all the cases were treated with Sodium Salicylate, alkaline答复s, and careful regulation of the bowels. It is important to be sure that the drug is pure, at first I used ordinary Sodium Salicylate and patients were constantly complaining of discomfort after its use. I then got physiologically pure Sodium Salicylate and seldom heard any complaint. The complaint in the first instance being probably due to impurities in the drug. An adult was given grt every four hours, a child of five years 2/3, and correspondingly increased according to the age of the child. Large doses of Sodium Salicylate are not borne so well in Subacute Rheumatism as in Acute Rheumatism. Ten grains was found by experience to be the dose best suited to an adult.
if more than gr.X was given in repeated doses, which I sometimes did in cases in which the joint symptoms were persisting, the patient soon began to complain of discomfort in the epigastrium, with nausea, refusing to take his milk, and also deafness and noises in the head. There was also complaint of heart weakness and feeling of faintness. The pulse also became weak and in some cases much slowed, in one case as low as 48 per minute.

In acute Rheumatism gr.XXX every four hours can be given without causing discomfort, probably the high temperature and more severe constitutional disturbance prevents the Sodium Salicylate having its full effect.

In a few cases Sodium Salicylate could not be taken even in moderate doses owing to the above symptoms developing, deafness and noises in the ears being the most
common Complaint, they were treated with Alkalies, Bicarbonate of Soda pr Xs and Bicarbonate of Potash pr Xs every four hours, but their recovery was more delayed than in the treatment with Salicylate of Soda.

Opium was only given in one very long continued case where the pain was so severe that the patient could not rest at night.

Salicylate of Soda was continued until all joint symptoms had subsided and the temperature was normal after which the patient was kept in bed another fortnight and the drug continued in reduced doses. After the patient was allowed to be out of bed Sodium Salicylate was discontinued except for an occasional dose at bedtime in cases where any slight return of the pains was felt. The mixture given during the day being an alkaline mixture consisting of
Bicarbonate of Soda, Bicarbonate of Potash and Nitrate of Potash. Other remedies were tried but none proved so satisfactory as Salicylate of Soda combined with alkalis.

Salieum was no better and was more unpleasant to take. Aspirin had the same objection. Quinine did not seem to relieve the pains and in every case it was given caused stomach disturbance.

Citrate of Lithium acted well as a cholinetic but disordered the stomach.

Local treatment of the joints affected, they were wrapped up in flannel. If the pain was very troublesome lotions were applied on flannel wetting out in hot water and covered with waterproof cloth. The following lotions were used with decided relief in certain cases - Lead and
Opium - Bicarbonate of Soda 3/4 to the pint of water - Tepol 3/8 mixed with 40 ml Eucalyptus and water gradually added. This latter when properly prepared makes a creamy mixture and seems to have a most soothing effect.

In regard to the treatment of the heart affections, they as a rule occur at the end of the second week. If no special indications of interference with the circulation are present, the patient will still continue his sodium salicylate in gr. doses but instead of getting out of bed after the joint symptoms have subsided for a fortnight, he must still remain in bed. If any weakness of action of the heart is present digitalis and Carbonate of Ammonia may be added to the mixture and continued for a month after joint symptoms have subsided.
Of Sodium Salicylate should prove too depressing for the heart, a mixture containing alkalis and nux vomica may be substituted and Digitalis added if required. At the end of this time treatment may be begun to further encourage absorption of the heart trouble caused by the endocarditis. Iodide of Potassium was tried at first but was not satisfactory as in 9/10 cases it did not suit the patient causing loss of appetite and stomach derangements. Liquor Iodi Fortis in 9/10 doses gradually increased to M/111 with 37 of Sulphate of Soda in water every four hours was given with very good results. In every case but three the heart murmur disappeared. Under this treatment with rest in bed, light diet and a large amount of alkaline drugs being still taken, the iodine seemed to cause absorption of the Rheumatic Endocarditis, the Sulphate of Soda stimulated
the liver and kept the bowels freely moving, and the alkaline drinks, the kidneys. If Sulphate of Soda was not sufficient for the bowels small doses of Calomel 1/4 to 1/2 gr. were given in addition every night.

In regard to what were called "Reminders" i.e. localised pain occurring in a single joint or structure without rise of temperature and usually the result of dampness in the atmosphere, error in diet or overexertion, the following was the line of treatment. If the condition was severe, say occurring in the foot and bad enough to prevent the person walking about, a brisk mercurial purge was given. The patient was put to bed, light diet with a large amount of alkaline drinks, Salicylate of Soda gr. 1/4 every four hours and the application of ice...
of the above mentioned lotions.
In less severe cases with the patient going about Sodium Salicylate or TF was only given at bedtime. Light diet and alkalies during the day. Some of the cases gave a great deal of trouble and especially showed a tendency to return from oversea of a part. Most satisfactory results were obtained in long lasting cases by the Doubling Radiant Heat and Light Bath applied to the part affected. The appliance consists of powerful electric lamps with reflectors. By an arrangement of stands the Doubling Radiant Heat and Light Bath can be applied to any part of the body. But a better result is obtained by approximating two reflectors so as to form a box and enclose the part with the result, that in addition to radiation of luminous heat the air in the enclosed space is superheated. In the case of the legs, they are laid on an asbestos cloth.
and are also covered with an asbestos cloth. A reflector with lamps inside is put on each side and both are approximated to form a box to enclose the legs.

The whole body bath may be given by arranging a series of these reflectors along each side of the body and covering over the top with an asbestos blanket, the head being left exposed.

The heat thus produced registers on a thermometer as high as 70° Fahr. Burning of the parts is prevented by the asbestos clothes and the exceedingly dry character of the air.

The result of the application, which is continued for half an hour, is that very profuse sweating is produced locally, there is also slight general sweating. The effect upon the part is very marked, pain and swelling leave the part at once, after in some cases the first applie-
ation, but it is advisable to have at least three applications at intervals of two days. I have never found this application to fail in the Reminders which follow Subacute Rheumatism. In Chronic Rheumatism the results have not been so good although two cases which I know of had benefited from it.

In my opinion the beneficial result is due to the dry heat causing stimulation of tissue change and rapid absorption of inflammatory products which have been produced by some irritating material circulating in the blood and affecting a part whose vitality is lowered.

Massage was tried in several cases for the relief of this local condition but in every case with bad results, the massage although causing no pain at the time being followed by swelling and increased pain in the part due to irritation from the pressure and friction.
Turkish Baths, the much advertised Hot air Cabinet Baths and Hot Salt Water Baths gave relief in some cases but more acted so satisfactorily as the Bowring Radiant Heat and Light Bath.

Since 1903 I have had under observation 29 cases, very few have had any fresh attack of Subacute Rheumatism but most have learned by experience what to avoid and have regulated their mode of life accordingly.

J. Robertson
18th April 1906.