Chapter Five

The Catalytic Agent In Allergy, Rheumatism and Heart Pathology

OUTLINE

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II. Etiology and Allergy Factors
III. Gross Pathology and Physiopathology in Rheumatic Disease
IV. Clinical Symptoms in Rheumatic Disease
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FOREWORD

Mr. Chairman, Members of the Medical Profession, Ladies and Gentlemen;

WE ARE HERE today because of a man of conviction—a man of courage and determination, who stood years ago and told the medical bosses of that time about the birth of a new philosophy in the Healing Art of Medical Science, which was successful when applied to the correction of disease. This scientific discovery was not made by magic, but was obtained by investigations and patients' observations through a number of years at a time when other medications were used and were recognized (regardless of the unsuccessful results) in preference to this recent discovery. Today, amid the discoveries of penicillin and wonder antibiotic drugs at almost every stroke of the clock, we realize that not all of them have proved satisfactory on every occasion. Many of these wonder drugs are nuisances and failures. However, we have found that the aforesaid philosophy is able not only to withstand the criticisms and attacks during a quarter of a century but also to remain un-touched and unchallenged even to this day.

The statement causing such controversy for the past, present and future generations of medical science is as follows:

"A carbon compound in double bond arrangements with oxygen has had power to act as an Oxidation Catalyst in the step-up process of breaking down the carbohydrated metabolism of sugar molecules which function to maintain or reestablish the 'natural immunity process' of the human body against disease and deterioration."

Because of the above amazing statement, which has proved to be a reality in thousands of clinical cases of his own and of many other physicians both in this country and abroad, the aforementioned man has been kicked about.

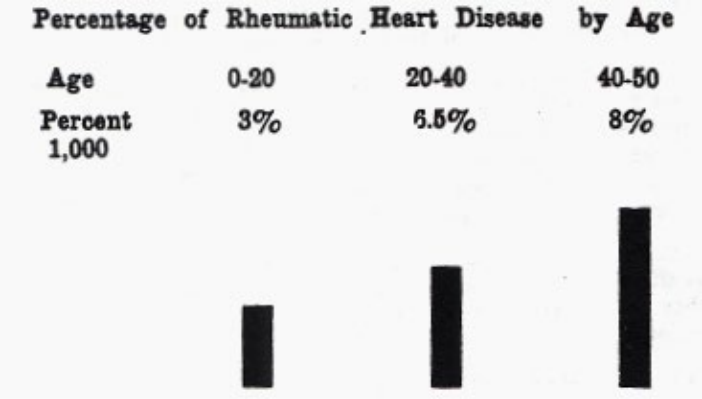
Let us recall the beautiful words of an outstanding poet:

"Truth forever on the scaffold
Wrong forever on the throne;
Yet, that scaffold sways the future
And behind the dim unknown
Standeth God within the shadow
Keeping watch above His own."

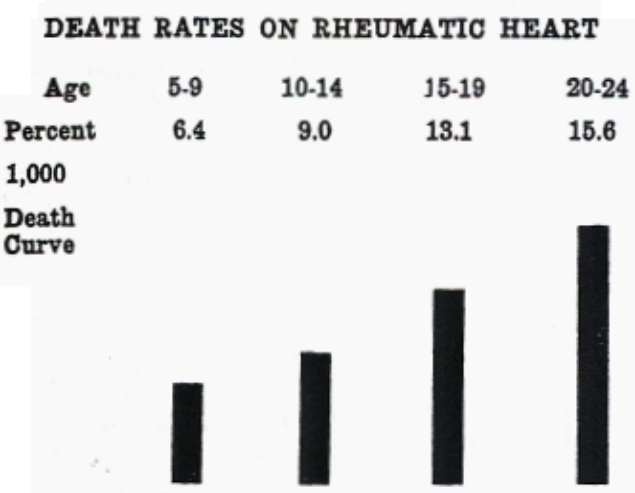
Today, that man of conviction, courage, and determination is with us. All of you know him: Dr. William Frederick Koch. To you, Dr. Koch, in the name of suffering humanity, and in the name of thousands and thousands of patients in the U. S. and surrounding territories to whom you have brought happiness by your methods, I respectfully dedicate these lectures on Rheumatic Disease.

I. IMPORTANCE OF RHEUMATIC DISEASE

Dr. Wheatley of the American Academy of Pediatrics recently emphasized the importance and seriousness of Rheumatic Disease problems. He estimated that in the present population of the U. S. there are three cases of Rheumatic Disease for every 1,000 persons under the age of 20, 6.5 for every 1,000 persons between the age of 20 and 40, and 8 cases for every 1,000 persons between the age of the 40 and 50 bracket, making an approximate total of 600,000 cases of Rheumatic Heart Disease under 50 years of age.



In the years from 1942 to 1946, Rheumatic Fever cases had a death rate of 6.4 per 1,000 for the age between 5 and 9; 9.0 for the ages 10 to 14; 13.1 for the ages 15 to 19 and 15.6 for the ages 20 to 24.



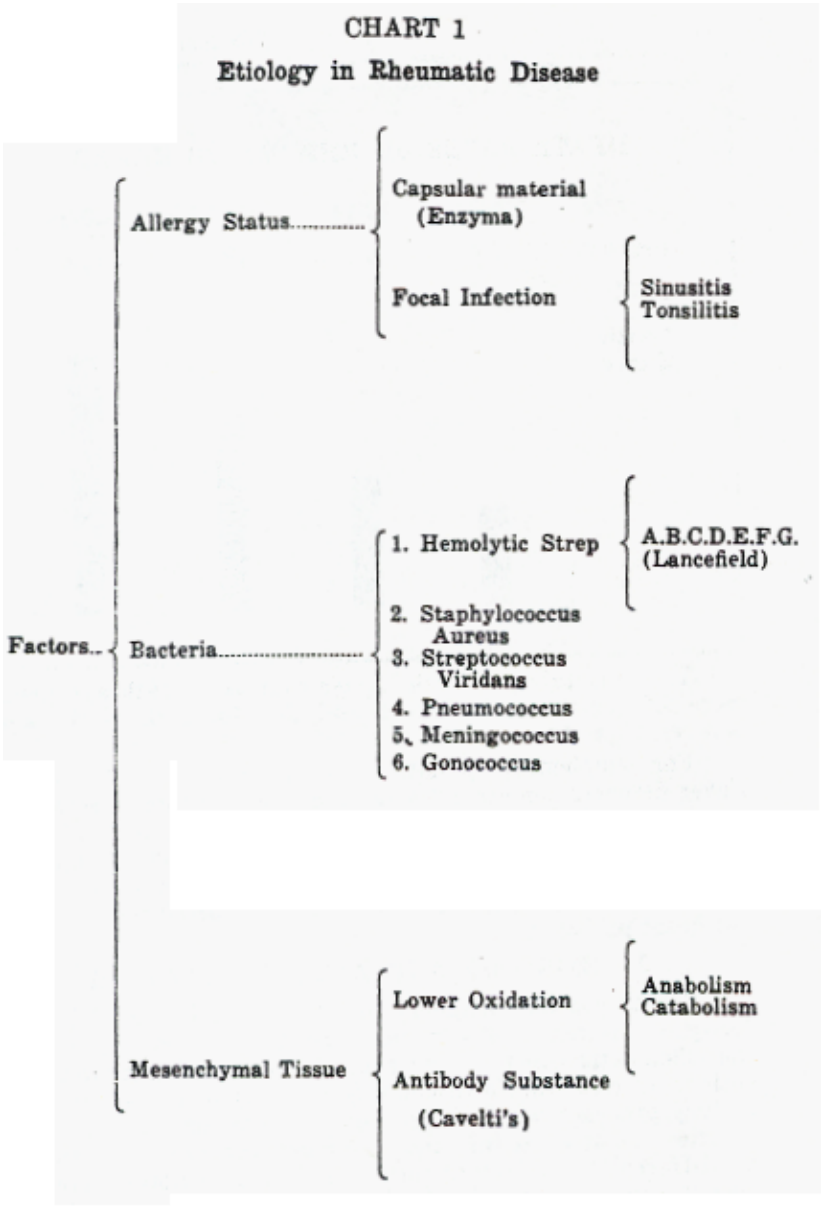
The only rates of death higher than this death age group were 6.6 for cancer in 5 to 9 and 27.8 for T.B. in the ages between 20 and 24.

For supplementary data, and to prove that Rheumatic Fever deserves our earnest attention, I would like to recall the yearly rate of mortality reported by the N. Y. State Health Department on Rheumatic Heart, which is between 30,000 to 60,000 persons per year. In addition, every year an outbreak of 260,000 new cases of Rheumatic Fever is reported with or without heart pathology.

II. ETIOLOGY AND ALLERGY FACTORS

Let us consider Etiology in Rheumatic Fever. The majority of the textbooks in our early days of college defined the Rheumatic Disease as an acute infection with multiple locations over the cardio-vascular system, primarily, and inflammatory process over the large joints and membranes of serous cavities. In an acute

infection, the most frequent germ isolated by different investigators seems to be the hemolytic streptococcus. In this particular field, worthy of mention are the interesting scientific works of an English investigator, Professor R. C. Lancefield, who first called our attention to the relationship of cell structure to biological activities of hemolytic streptococcus.



As in Pneumonia process, which in the past years were classified or typed in 33 different groups of germs, it seems that hemolytic streptococcus is also classified in different groups according to the agglutination factor, on which process the carbohydrate content of the capsules surrounding the germs play an important function in the determination of the different types of streptococcus germs.

From the foregoing observations, Prof. Lancefield described seven independent groups of hemolytic streptococcus, which he labeled with Type A.B.C.D.E.F.G. Probably Type A. is mainly responsible in the process of Rheumatic Disease. Quinn made similar observations in 1948. In 1949, Harris recorded that the titer of Antibody to a streptococcus hyaluranidase (so called a spreading factor) was significantly higher in the patient with Rheumatic Fever than in the patient convalescing from streptococcus infection.

Harris made an additional statement that the titer of Anti-Hyaluranidase in the serum correlated well with the activity of the Rheumatic Fever process. To summarize we may say that the opinion of Lancefield's research and our knowledge of today indicates that the streptococcus capsule contains a carbohydrate factor or enzyme so-called hyaluranidase which in contact with the host developing in the serum or blood stream antibodies substance gives a reaction which can be determined by a serological precipitation.

Patients with positive agglutination in the above substance are afflicted with Rheumatic Disease, and patients with a type of streptococcus not belonging to the Group A., are not afflicted with Rheumatic Disease. Paul in 1943 made similar conclusions about the relation of Rheumatic Fever to the presence of a streptococcus germ belonging to Group A. If the above statement is of tremendous significance in the field of bacteriology, more important and significant is the interrelation of the bacteria to the host.

It is in this particular field that Rutstien, in 1947, mentioned the importance of the human tissue reaction to the attack or entrance of infection by streptococcus germs. Today, the above concept of the local tissue reaction in response to the attack of the infection is so predominant that many articles in medical journals make a special remark under the subject and name of Mesenchymal Disease to express such reactions and bring us indirectly to the field of allergy reactions, expressed in terms of structural allergy from the moment that such reaction takes place right in the localized tissue. Prof. William Koch of Detroit first described this concept years ago.

Observations made in our daily contact with rheumatic patients reveals a frequent association of allergy manifestations of different types (sinusitis, vasomotor rhinitis, etc.) associated with increased eosinophil rate on the differential blood count. On occasions, a local nodose manifestation on the skin is also a "reactional allergy's" answer to the infected attack. From the above clinical and bacteriological interpretations, the Rheumatic Disease has made a definite change of position—etiologically speaking—in the field of pathology, to such an extent, that a disease considered to be produced by infected germs alone, has become, today, a disease of allergy interrelations.''

Professor R. V. Christie, in an article of the *British Medical Journal,* summarizes his observations made in more than 269 cases of bacterial endocarditis, by stating that allergy reaction may take place anywhere in the body including the heart structure. Sensitization of the cardio-vascular system makes the heart the "shock organ" and forms the basis from which cardiac or vascular disease may develop.

Cardiac allergy has not received the attention that it deserves in medical literature. The concept of cardiac allergy, cardiac reaction has found support by the repeated establishment of an infiltration of eosinophil leucocytes such as is found in diffuse interstitial eosinophilic myocarditis.

Allergy response in the coronary vessels is possible. Allergy reaction of peripheral vessels including arteries and veins may give rise to peri-arteritis nodose, thrombo angeitis, endo-arteritis obliterans, and phlebitis—all of them, give response to sensitization. In rheumatic carditis, the most important localization of the disease, the myocardial Aschoff body is the typical lesion.

Many investigators believe that Rheumatic Fever is a reaction from parental contact with the forming protein to which the tissue of the host has been previously sensitized. Along these lines, Dr. Cavelti of the Italian School has given an enlightening explanation on pathogenesis of Rheumatic Fever and carditis as follows: during or succeeding the streptococcus infection which precedes the rheumatic attack by about three weeks, an autogenous antigen is formed by a reaction, in which, a streptococcus substance or product is combined with components of the host tissue, perhaps connective tissue (Mesenchyme). This antigen incites the formation of specific antibodies, which can precipitate the rheumatic lesion by reacting ''in vivo'' with the antigen situated in the tissue. Once the formation of antibodies has been incited: the streptococcus component is no longer necessary for the ensuing action of these antibodies of tissues.

Going back to the allergy factor in Rheumatic Disease, and making a brief summary of medical articles on the above subject, we find that as early as 1937, the Canadian School was one of the first to mention the interrelation between allergy and Rheumatic Disease. Dr. Arnott of London, Ontario, my distinguished professional friend, in his paper entitled 'Rationales of a Fundamental Chemical Therapy' mentioned a leading article published in the *Journal of the Canadian Medical Association* by Dr. H. B. Cushing of McGill University in Montreal. Dr. Cushing who spoke about Rheumatic Disease mentioned the fact that the widespread dispersion of the disease in the body tissues does not appear to be the result of one or two factors only, but also the result of favorable conditions for growth found occasionally in certain predisposed people. Here he was speaking of allergy.

Dr. Arnott mentioned also an article written by the Editor of the *Journal of the Canadian Medical Association*, April 1937, which said, "the majority of investigators seem to have fallen back to the theory of allergy." The most plausible explanation, therefore, appears to be some form of allergy.

In Summary: Today, the majority of medical schools agree that the allergy condition is the one determining factor in the ultimate development of the heart lesions in Rheumatic Disease. More important is the fact that the right therapeutic measure will belong to a medication with power of the allergy factor which subject I will discuss extensively in the therapeutical section.

III. GROSS PATHOLOGY AND PHYSIOPATHOLOGY IN RHEUMATIC DISEASE

In our previous section, we discussed the importance of allergy as a determining factor in the beginning of rheumatic disease and its ultimate destruction, the heart lesions.

Here in the gross pathology section, I will show you a sample of terrific destruction done by the rheumatic disease, when the process did not receive an early and appropriate treatment.

It is most unfortunate for the medical practitioner that a vast number of the rheumatic disease patients come to him in the ultimate stages, which have a high mortality rate. The day that the medical profession awakens to the fact that the correction of disease depends on an early diagnosis and an early understanding of the problems of allergy, many lives will he saved from the ultimate complications and crippling heart damage.

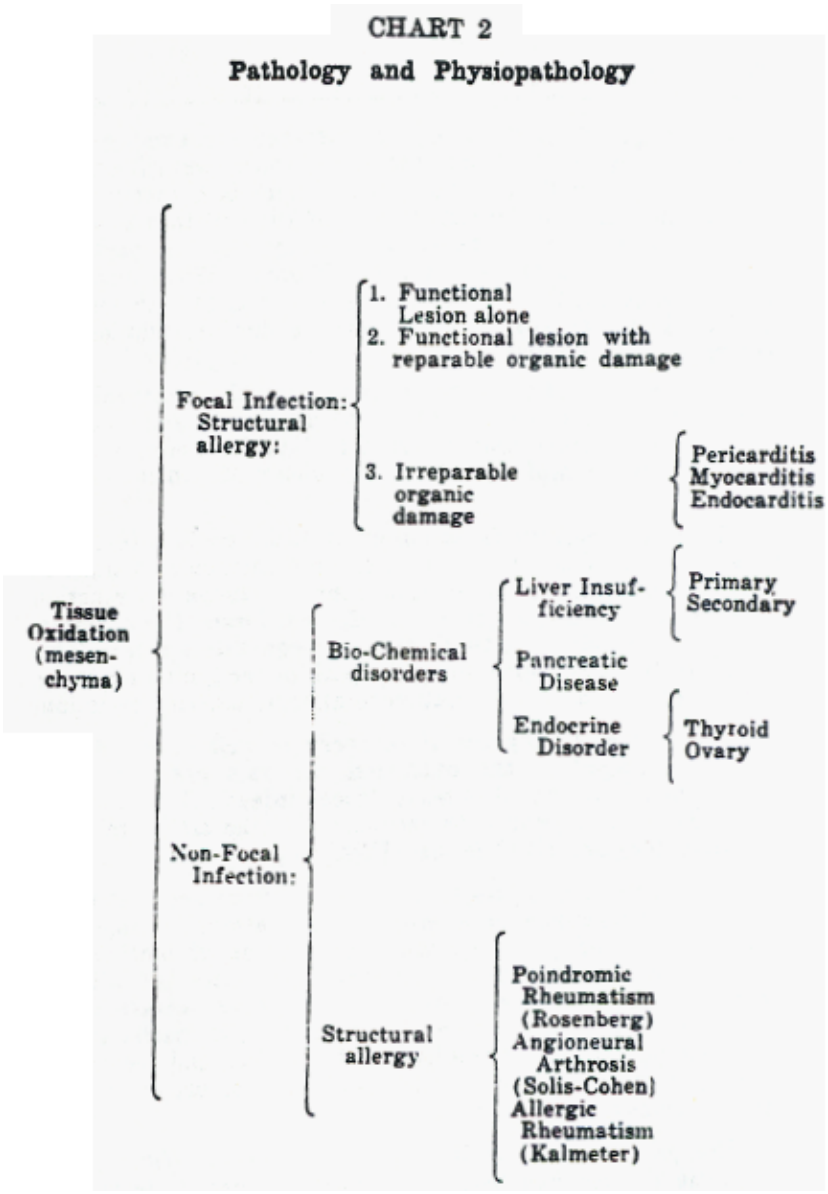
Rheumatic Disease is therefore, explained or determined by three fundamental factors:
1. —a focal infection, 2.—a biochemical disorder, and 3.—an idiopathic allergy.

Let us examine the physio-pathological conditions of each determining factor:

As for the "focal infection'' it is clearly understood, today, that the Group A. of Lancefield is the main etiological reason for Rheumatic Disease and on which pathology, the enzyme content of the capsule plays an important part in the effect made on the allergy determination. At this point, let us recall the statement of Professor Koch who said:

''The basis of allergy depends upon the ability of a fluorescent substance to absorb energy from exothermic chemical reaction going on in the medium

(living cell) in which they absorbed. This absorbed energy increases the strain in the fluorescent substance, to a point, that the energy can no longer be retained and it has to be given off either as a radiation of resonated or of degraded value so the energy can be passed over to a suitable acceptor, a chemical system, into which the fluorescent substance is intimately absorbed, and which for greatest effectiveness possesses a range of energy absorption equivalent to the range of emission of the fluorescent substance. The energy so accepted, passes into the chemical reaction of the acceptor, forcing its function. Thus there is a, specificity of action, and only the functional unit of the cell that is able to accept the particular range of energy that a particular fluorescent substance can emit, is affected. When energy is thus transferred, the fluorescent substance is said to serve as a photochemic sensitizer, but specific range of emission and absorption is not always necessary for the acceptance."



In our application of the phenomenon, the allergenic material (streptococcus capsule) is the sensitizer, and the particular cell structure that is forced to function determines the type of allergy and symptoms we observed (inflammatory joints).

There are certain facts observed clinically so often that they cannot be discounted. In a chronic Rheumatic Disease at the end of the recovery process, an acute inflammatory reaction takes place within and a focus of infection forms. For example, sinusitis or tonsillitis, or tooth abscess frequently appears. This focal infection developed along the path of the lymph drainage is credited with a casual relation to allergic activity or lesion.

The rule and progress of recovery is well known to us, who are engaged in the Oxidation Catalysts practice. The FIRST manifestation of disease (focal infection) to come is the LAST to disappear with recovery and the LAST to come (inflammatory arthritis) is the FIRST to go.

Now, if we look again to our CHART 2 we see that there is another mechanism of allergy determination, in which no focal infection or germ is found. So I speak of biochemical disorders primarily, with secondary production of allergy manifestations. It seems to be that liver insufficiency occupies a preeminent position in these affairs, primarily in the physiological activity of the liver cell function, and secondary to the pathological changes operated on distal organs (nephritis and intestinal disorders).

The participation of liver activity and insufficiency in rheumatic disease has been so significant that it demanded the attention of a Mayo investigator, Dr. Kendall, and resulted in the production of a so-called "compound E" which was highly advertised a year ago in the correction of arthritis.

In Summary: the metabolic disturbance of the liver cell is a determining factor in the production of local biological changes in the liver oxidation, with ultimate production of allergy conditions.

Similarity of disturbances occurs in another important gland, the Pancreatic gland. Among diversified pathological processes of these glands, I will mention the "celiac disease" in which a metabolic disturbance is present with ultimate production of allergy manifestations in a form of distant bronchial manifestations (allergy bronchitis) and a local inflammatory reaction of the large joints (allergy rheumatism).

Finally, we recognize the endocrine disorders (thyroid or estrogenic) as factors in the production of allergy manifestations associated with Rheumatic Disease. These can be classed with the clinical manifestations of menopausical arthritis and migraine headaches as well as urticarian reactions, associated more or less with rheumatic disease.

In Closing: these brief physio-pathological descriptions, let us think about the Rheumatic Disease produced by an "idiopathic allergy" without focal infection or biochemical disorders described years ago by two of Mayo's investigators, Drs. Phillip Hench and Edward Rosenberg in a 1943 publication of the *Collected Papers of Mayo Clinic and Mayo Foundation*.

They describe a type of rheumatic condition characterized by an acute arthritis with pain, swelling, redness of one or more joints, which attacks suddenly

develops rapidly, lasts only a few hours or a few days, then disappears completely but recurs at irregular intervals.

In 1935, two other independent investigators described a type of Rheumatic Disease closely related to Rosenberg's Palindromic Rheumatism. This type, an allergy manifestation, was called the "SOLIS COHEN Angio-neural Arthrosis" in which the chief symptomatic elements were pain, swelling, discoloration and fever, which emphasized the frequent occurrence of hives, dermographism and other evidences of vasomotor manifestations. In 1939, still another investigator, Dr. Kahimeter, described the so-called allergy type of arthritis with 54 clinical observations.

IV. CLINICAL SYMPTOMS IN RHEUMATIC DISEASE

Our Clinical Observations can be described in three separate groups:

1. Atypical Forms 2. Acute Forms 3. Chronic Forms

When recording clinical observations, it is necessary to avoid the repetition of clinical manifestations well described in all medical textbooks. For the busy practitioner, it is more important to know the symptoms and manifestations more frequently seen in daily practice.

1. Frequently the "Atypical forms" of Rheumatic Disease which occupy a prominent place in the daily practice are misrepresented to such an extent that, for years, these patients or doctors are not awake to the facts of their importance. Minimal distresses (neuritis, torticollis, foot aches, bursitis, spinal distress) are not recognized as important and yet, they are the first warnings in the ultimate progress to a heart involvement.

In our estimation, the "minimal complaints" in Rheumatic Disease are early expressions of an "allergy disease" and have been present always in every one of our clinical histories.

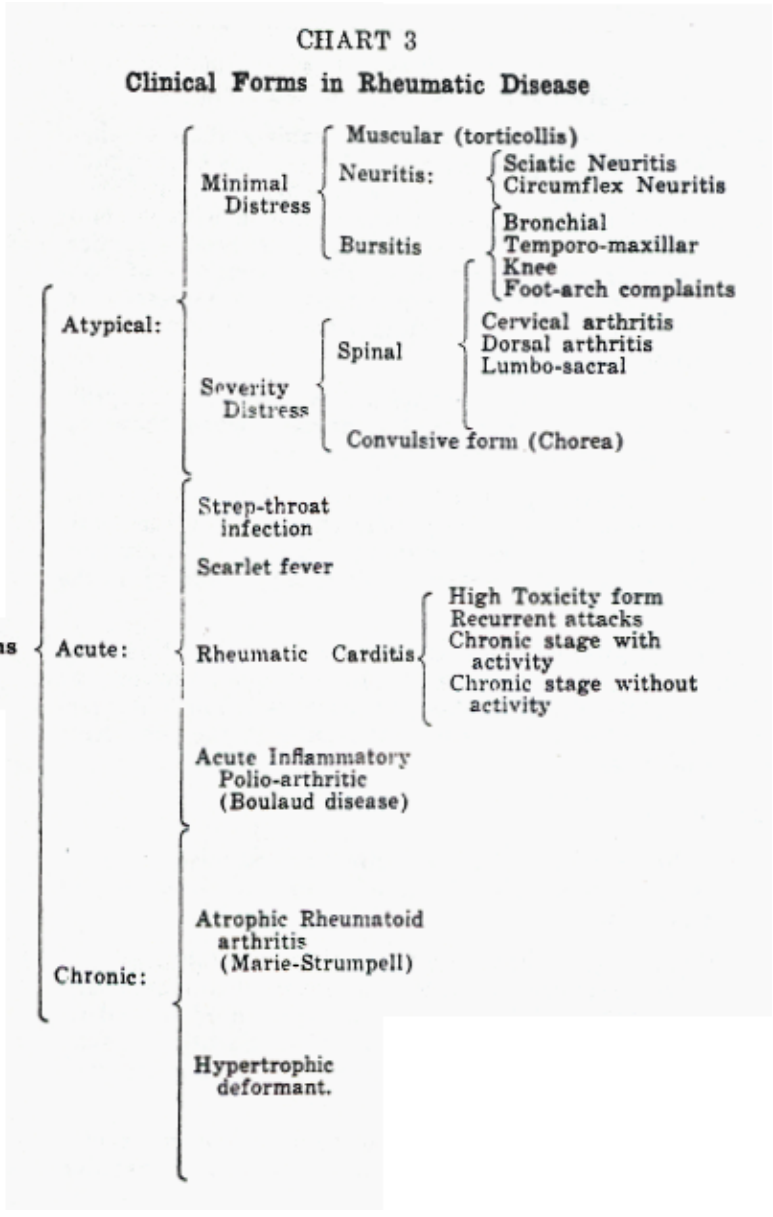
The majority of longstanding cases of Rheumatic Disease (chronic stage) refer to us a history of neuritis, bursitis, sacroiliac pains (lumbago) or foot complaints frequently called "foot arch complaints." In other cases there are histories of tonsillitis attacks (strep throat) followed by chills and fever or acute exanthemas of the scarlet-fever type (strep).

Atypical Forms of Rheumatic Disease:

Among the atypical forms, there are two frequent and important developments, which on many occasions do the general practitioners misrepresent, and which

are listed as the convulsive or epileptic type of rheumatic disease described years ago by an English physician, Dr. Sydenham.

Chorea is a typical convulsive form of the Rheumatic Disease, with a peculiar frequency among children. During the convulsive stage the patient loses consciousness for minutes or hours and is pale with muscular contractions over different parts of the body. The spells are repeated sometimes close together. In the majority of patients, they are overlooked.



Therapeutical measures are limited to symptomatical treatments with barbiturates, bromides and sedatives.

Chorea of Sydenham is an early manifestation of Rheumatic Disease with convulsive form and should be kept in mind by the general practitioner, particularly when the above manifestations occur in small children who complain with joints or muscular pains. It is in this stage where depressive medications by barbiturates not only delay the opportunity of making correct diagnosis but also underestimate the depressive action over the cardio-vascular system, which is always affected by the hemolytic strep.

If the above therapeutical action is mistaken the problem becomes more alarming and important when these patients reach the hands of the neurosurgeon.

Many convulsive stages of chorea are mistaken due to a brain injury or pathology vastly different from the Rheumatic Disease. These patients are classified as ones with brain tumor, blood clots or sclerotic meningitis before they wake up to the facts.

A surgical intervention is frequently ordered and on some occasions electric-shock treatments. In both cases, the surgical operation and the electrical shock treatments are only dangerous measures without any beneficial results in the convulsive stage of the disease.

Observation –1:

An eight-year-old girl has a history of convulsions, fever, leucocytosis, articular pains, heart murmur and recurrence of tonsillitis attacks.

A diagnosis of ''Rheumatic Chorea'' was established and two cc. of the Oxidation Catalyst was given intramuscularly. During the months to follow, the child experienced typical reactions with recurrence of complaints. Consequently the family desired to consult a neurosurgeon of the locality who established a diagnosis of brain pathology.

A year later, our examination of this patient revealed a clear organic heart lesion (mitral stenosis)—a clear expression of overlooked rheumatic lesion.

Atypical Rheumatic Disease also made frequent manifestations of localized inflammatory process over the capsular joints (bursitis), with histories of local complaints (pain, swelling) frequently mistaken as a traumatic injury (sprain).

Here again, the regular practitioner misunderstands these Atypical Forms of Rheumatic Disease as well as the orthopedic surgeon. For the clinician, a great number of cases of Bursitis are localized diseases not related to a rheumatic condition. A local treatment over the joint is established in the form of infrared

lamp, diathermy, or manipulations, which are only therapeutical measures and give more temporary relief. In fact, Bursitis usually recedes spontaneously and leaves an irreparable cardio-vascular lesion in a few weeks.

The Bursitis as a pathological expression of rheumatic disease has been underestimated by the majority of practitioners, in whose estimation the local inflammatory reaction has no relation whatsoever with the infective mechanism of Hemolytic Strep.

As in Chorea disease, the surgeon frequently contacts Bursitis manifestations and a surgical operation more or less extending over the affected joint is performed with unnecessary mutilations.

Our Clinical files contain the typical case previously described.

Observation –2:

A forty-five year old female patient who had been afflicted for years with bilateral Bursitis of kneecaps had suffered pain and inflammation; to such an extent that ambulation was almost impossible. After years of unsuccessful medical treatments, she contacted an orthopedic surgeon who performed a bilateral resection of both kneecaps.

Following the operation, the patient still suffered with articular complaints, plus the limitations of activity as resulting from the surgical operation. The surgical resection of kneecaps as a treatment for kneecaps Bursitis, appears to me as surgical intervention over the heart muscles to cure a coronary disease.

Again and again it is necessary to remind the specialized men that Rheumatic Disease is NOT a localized disease, which only the internist should treat.

Another frequent mistake among the Atypical Forms of Rheumatic Disease is the inflammatory process over the spinal column, which could be extended from the cervical region to the sacroiliac joints.

Over the cervical region, the patient feels a sensation of "cracking feeling" during the rotation of the head associated with stiffness of the muscular structure in the neck.

In the dorsal region, the inflammatory process in the inter-vertebral meniscus produces a distant pain manifestation over the abdominal organs, simulated on occasions by a gall-bladder attack or kidney complaint, which is quite frequently mistaken by the general practitioner.

These reflex manifestations are well understood, and were described years ago by Dr. Head under the name of "Head's Metamerics Zones." He described the particular relation of each vertebra to the nerve Plexus radiated through the inter-vertebral space.

When the localized inflammatory process affects the lumbar region a contractual process involves the lumbar muscles with pain and limitation of motion. The patient is forced to walk in a very peculiar position. This condition has been called "Lumbago."

In general practice "lumbago" is frequently mistaken for kidney disease, and as rule, the inflammatory process spreads extensively to the sacroiliac joint on one side, with a displacement and compensatory position of the hip joints and temporary vertebral scoliosis. "Lumbago" patients suffer agony and a great deal of limitation in movements for days and weeks, with incapacity to work or even to attend personal care.

Another manifestation of "Atypical Rheumatism" is the "Neuritis" which is in the majority of cases secondary to a distant focal infection such as tooth abscess, sinusitis, etc. Among these particular forms of Rheumatic Diseases is found the sciatic neuritis, which is perhaps, the most painful and stubborn of the rheumatic group. It strikes suddenly, and usually involves one side. The pain is typically a burning sensation, which extends from the gluteal region, posterior, down to the thigh, and returns above the knee joint on the external side. In some instances it reaches as low as the foot, with partial inability of movements such as extension and flexing of the foot joint.

The severity of the attack keeps the patient in bed with a contractual position in the side affected. Clinically, it is an inflammatory process of the nerve in which the patient demands a quick action to obtain some relief from the misery and suffering.

Clinical manifestations of Rheumatic Disease such as have just been mentioned are numerous. In fact, your speaker was a patient years ago and he will never forget the limitations and complaints, which he had for several days.

There is no medication in the world with a quicker and more effective action in the treatment of Sciatic Neuritis than the injection of Glyoxylide. The relief follows in a few hours, and the rehabilitation to walk occurs in a few days. Attacks seldom recur after the Glyoxylide injection.

Also among the Atypical Forms of Neuritis are found the Brachial and Intercostal Neuritis with pains and limitations of movements.

2. Acute Forms of Rheumatic Disease:

Let us study the Acute Forms of Rheumatic Disease. If we look at Chart 3, we observe four (4) clinical types:

1b. —Strep Throat Infection
2b. —Scarlet Fever
3b. —Rheumatic-Carditis
4b. —Acute Inflammatory Poly-Arthritis

1b. In all the above clinical forms, the hemolytic Streptococcus is the responsible germ with independent entrance. The Strep throat infection is always acute at the onset with sore throat, redness, fever, chills, muscular pains, and increased leucocytes. Locally, the lymphatic structures of the cervical region are involved internally as well as externally. The attacks are sometimes mistaken for a "catarrh condition" and the tonsilar infection blamed for it with an urgent demand for extirpation (tonsillectomy).

Tonsillectomy in the above strep infection is a dangerous operation, particularly when performed in the acute stage of the disease. In the chronic stage, though, after the fever and inflammation subsides, the surgical operation should be avoided. A throat smear for culture should be obtained before any decision is reached.

Years ago, the bacteriological interpretation of positive culture of hemolytic Strep in the throat smear was not given the importance it deserved. The majority of the above patients carry on for months and years an infective process of tremendous virulence, which gradually involves the cardio-vascular system and distant joints. These patients experience a tired sensation, muscular pains in different locations as well as a mild hypochomic anemia and increased erythro-sedimentation.

2b. Scarlet Fever is an exanthema of the childhood age, acute at the onset, with severe throat complaints, high fever and lymphatic enlargement of the cervical glands. Despite the fact that the etiological factor in Scarlet Fever is accepted today to be a "virus infection," the hemolytic Strep also plays an important role in the disease. Sequelae and complications frequently occur in the above disease in the form of bronchial pneumonia, kidney injury (nephritis) and heart lesion (valvular endocarditis).

3b. The **Rheumatic Carditis** is an Acute Form of Rheumatic Disease, associated with an inflammatory process over the cardio-vascular system. Acute on entrance, the onset of the symptoms are fever, tachycardia, dyspnea and heart insufficiency. It frequently occurs in patients between the ages of 30 and 50

years. The physical examination over the heart structure detects an organic heart murmur, irregular beats (extrasystoles) and typical E K G with increase of the P.R interval (partial block) and abnormalities in the complex Q-R-S and S-T waves. (See Figure 31)

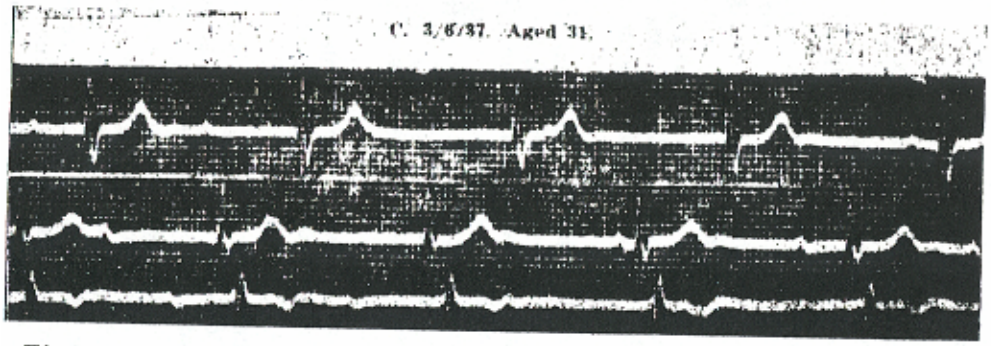


Figure 31. Rate: auricular, 65; ventricular, 46. No relationship between auricular (P) and ventricular (QRS,T) contractions. Complete heart block. Present since June, 1924, to date (March, 1947).

As a rule, the Rheumatic Carditis has been classified in four different clinical stages or forms. According to Swift, they are frequently seen in the practice as:

a) High Toxicity Form
b) Recurrent Attacks
c) Chronic Stage With Activity
d) Chronic Stage Without Activity

The High Toxicity Form is always followed by a high mortality rate. The Recurrent Form is characterized by a period of activity and the rest of the clinical manifestations. The Chronic With Activity given as clinical symptoms of infected process lasts for months and years. Finally, the Chronic Inactivity is carried on by the patient for years without clinical manifestations with an organic heart lesion in the stage of fibrosis.

4b. A French physician, Dr. Boullaud, first described the Rheumatic-Poly-Arthritis or Classical Rheumatic Disease. The clinical picture is well known in general practice; the patient has an acute onset of manifestations, fever, pains and swelling over multiple joints. Over the heart the patient feels chest distress and pericardium friction. Skin manifestation adds in forms of subcutaneous nodules of white-gray color, hard to palpation.

These nodules are an expression of an organic effort to establish an immunity reaction, or a clear allergic manifestation to the infective organism.

Perhaps, the Rheumatic Poly-Arthritis is the most peculiar form of Rheumatic Disease with an acute stage in which the "blood picture" assumes a typical reaction. Frequently, there is an increase in the leucocytes between 15,000 to 20,000 as well over the erythro-sedimentation rate between 100 and 130 in the first hour (Wintergreen). The speed of the sedimentation rate gradually decreases during the recovery and convalescent period, and becomes of great value to the physician in the estimation of the prognosis. As a rule, a sedimentation rate above 20 mm. demands a prolonged rest in bed.

3. Chronic Forms of Rheumatic Disease:

Following the Atypical or Acute manifestations the Rheumatic Disease will become in the "chronic stage" under two forms: the Atrophic Rheumatoid Arthritis described years ago by Marie-Strumpell or the Hypertrophic Deformant.

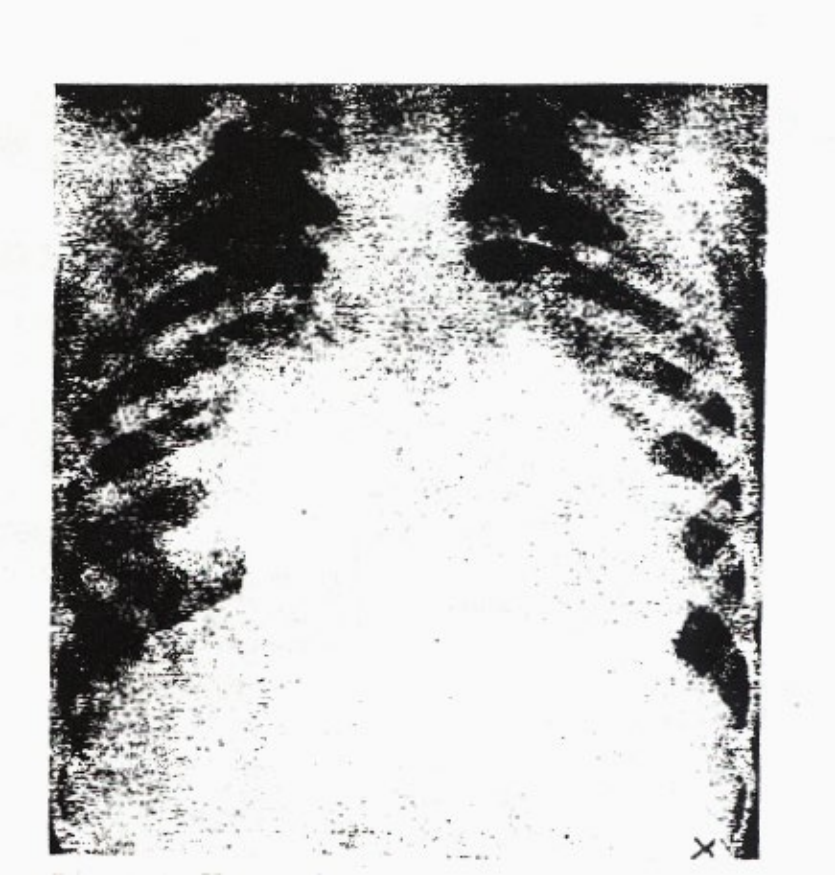


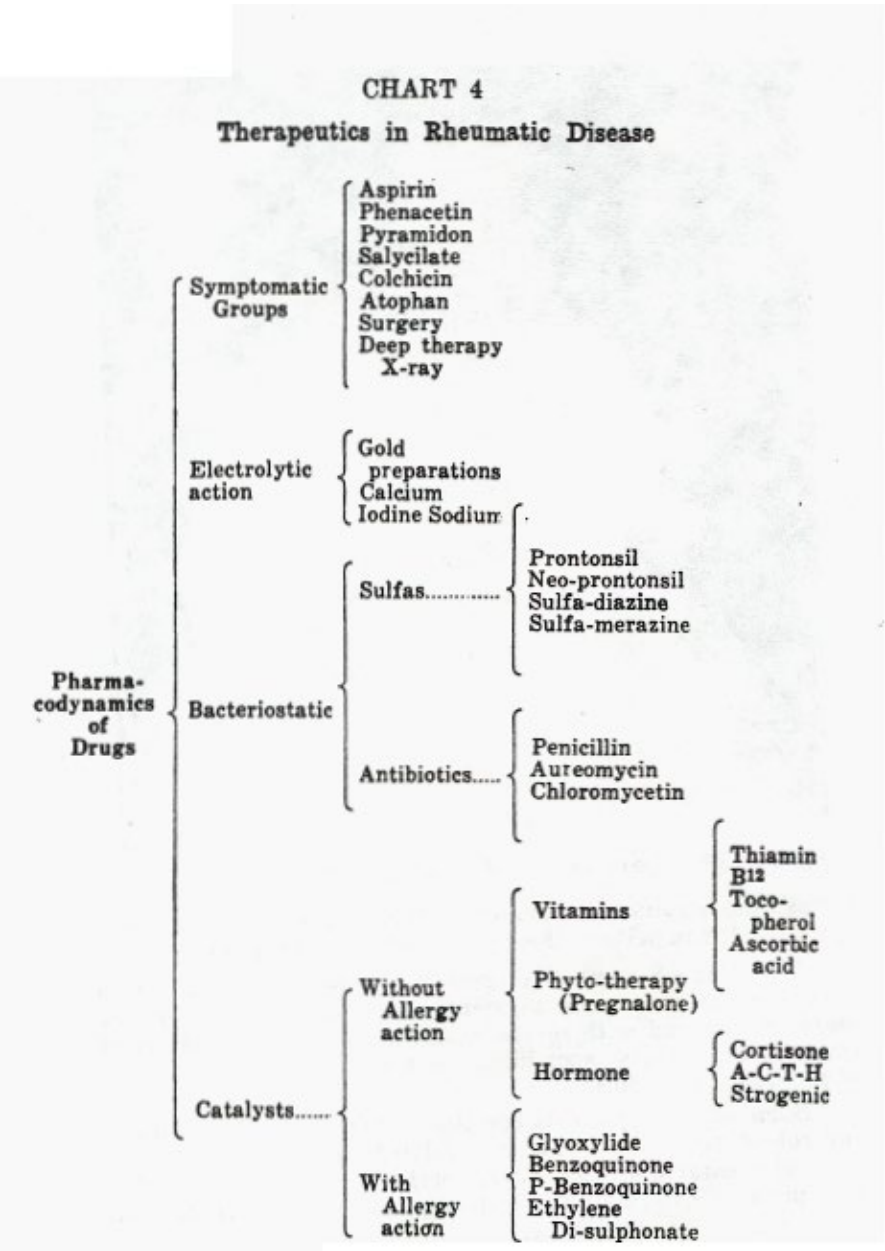
Figure 82. Heart enlarged in all directions.

The Marie-Strumpell Disease has a peculiar localization over the spinal column segment with preference over the sacral region and with severe pains and

ultimate ankylosis of the vertebral joints (spondilitis) as well as muscular atrophy of the hands and arms.

Some of these patients are also afflicted with involuntary control of movements similarly related to a Parkinson's as well as mental distress. Liver cirrhosis has been described also in these patients. Brain damage and particular destruction or sclerosis of the involuntary muscular control of brain nucleus (nucleus pallidus) have been reported as pathological findings in these patients.

On the Hyperthropic Form the patients show a deformity in the joints of hands and feet with increased calcified deposits and ankylosis. They are the ultimate developments of Rheumatic Disease.



V. TREATMENT OF RHEUMATIC DISEASE

This section deals with important and extensive material, which will he made as brief as possible, particularly along the lines of orthodox treatments before the discoveries of antibiotics and endocrine substances.

Until recently, the treatment of Rheumatic Disease was only symptomatic with a group of medications well known to you (aspirin, phenacetin, pyramidon, sodium salycilate, sodium iodine, etc.) with inability to cure and to avoid the ultimate progress of disease, the cardiovascular damage.

Let us refresh our memories with an enlightening paragraph from an article found in the May 1950 *Journal of Iowa's Medical Society*. It discusses the use of aspirin as follows:

"In many of the Rheumatic Diseases where there is no known cure, the important problem is to alleviate the symptoms and teach the patient to live with his disease. Pain must be controlled and sodium salyciate and ASPIRIN are the most economical and as effective as any of the more highly advertised drugs.

"The usual error is not giving a sufficient dosage for relief. Many patients can tolerate ASPIRIN in doses from 45 to 80 grains DAILY divided into morning, and evening doses and intermediate doses as necessary for relief."

Do you believe that between the intermediary dose in the above therapy the physician's services are needed any longer?

The cardiovascular system certainly is not still standing after such a pounding.

Let us continue with the analysis. "At the onset it is advisable to use small doses of opiates to attain rest and COOPERATION of the patient."

How much cooperation is to be expected from a patient who is asleep from the effects of opiates? Shall we hammer on his head?

If our previous dissertation (etiology and pathology sections) and clinical experiences all over the world show that rheumatic disease is an infective and Mesenchymal Disease with an early damage over the heart structure (myocardial damage) we should realize how dangerous is the indiscriminate use of ASPIRIN as a sure medication to obtain relief as it will end the patient's life quicker than if lie did not use it.

The use of ASPIRIN in Rheumatic Disease as well as in any other disease should be avoided in the hands of any conscientious practitioner. Furthermore, commercialized advertisements through the radio should be prohibited from our daily programs, and should be branded as criminal and detrimental to the health of the people.

Among other measures, perhaps with a dangerous action similar to that of aspirin, are the gold salt preparations (Solganol B, Allocrysin, Sanocrysin, etc.). They are high in toxicity and detrimental to the reticulo-endothelial system on which the oxidation power is a main development during the entrance of the infective organism.

Frequently following the administration there appears kidney damage as well as severe dermatitis, a final expression of allergic intolerance.

The gold salts therapy in Rheumatic Disease should be a companion of the X-Ray therapy technique, which is another unfortunate therapeutic measure of the old orthodox system. The fibrosis and detrimental effect on the oxidation system is well known as is the secondary anemia following the applications of radiotherapy.

The discoveries of the Vitamin and the fact that the Rheumatic Disease might not be of microbial origin as many authorities held, but might be caused by some basic disturbance of the body's chemistry, the use of Vitamins, on sight, became a promising medication without depressive effect on the patient's system. Indirectly, all vitamin preparations contain, in the molecule structure, a carbon and oxygen arrangement with an internal catalyst action over the Mesenchymal structures.

Before the discovery of B^{12}, the most extensive vitamin preparation in use for rheumatic disease was the Thiamin Chloride or Vitamin B^{1}. From pharmacological activity, the Thiamin Chloride served as a group in enzyme systems.

In other words, it represented the prosthetic group of the coenzyme cocarboxylase. These enzymes catalyzed the decarboxylation of alfa-ket-acids, particularly pyruvic acid. If there is a deficiency of thiamin, there is also deficiency of the coenzyme cocarboxylase and of the enzyme carboxylase, with the associated high level of pyruvic acid and polyneuritis syndrome.

This explains the reason for relief of Atypical Rheumatic Disease (neuritis) from the thiamin treatment. However, the medication has only a limited therapeutical action, due to the fact of rapid elimination and repeated doses. Thiamin Chloride is practically ineffective in the correction of the allergy factor of the focal infection mechanism.

Two other interesting groups of vitamins with a field of applications in rheumatic disease are: the B^{12} and the Vitamin E (tocopherol). The Vitamin B12 has been used for relief of the toxic reactions (dermatitis) following the use of golden salts in rheumatic disease. Fibrostic symptoms are quite markedly alleviated in using B^{12} considerable improvement shows in the blood picture (rheumatoid anemia).

The vitamin E (alfa-tocopherol) is considered a respiratory enzyme but its most striking effects, in case of deficiency, are on the pituitary gland and reproduction in general muscular dystrophy and paralysis in rats, guinea pigs and rabbits and encephalomalacia in chicks.

Vitamin E has proved to be of practical use in the Chronic Rheumatic Disease (Marie-Strumpell Syndrome) associated with mental distress and muscular atrophy. Vitamin E can be used as a supportive medication for the cardio-vascular system (Rheumatic Carditis) with far superior results and with less toxic reaction than the digitalis preparations.

In Summary: Vitamins are exogenous catalysts and very effective. They are involved in all biologic oxidations ranging from bacteria to man.

The third period in the treatment of Rheumatic Disease became known with the discovery of the sulfonamide preparations. They are helpful only in eliminating aggravating infection. Among these preparations we shall recall the "azoic compounds" (Prontonsil and Neo-prontonsil).

Other derivatives are the sulfa-thiazol, sulfamerazine, and suhfadiazine.

In principle, the bacteriostatic effects of the above preparations have always been handicapped by their toxicity, as veil as the fact that they are highly depressive to the oxidation mechanism of the human body.

Among these depressive actions, the sulfa preparations seem to have a definite antagonistic effect over the reticuloendothelial system, as well as the hemopoietic system. Oftentimes, the administration on rheumatic disease patients is followed by the aggravation of the anemia leukopenia and agranulocytosis.

The fourth period in the treatment of Rheumatic Disease and sequelae came with the discovery of the antibiotics by Fleming, of which the penicillin drug is chief.

Here the field of therapeutical action is more acceptable when compared with the rest of the previous medications excepting the Vitamins.

Antibiotic preparations (penicillin) have been used successfully in the Acute State of Rheumatic Disease (septic endocarditis) and strep-throat infection. However, the medication is unable either to remove the infection completely or to prevent the recurrence of attacks.

Penicillin has been handicapped by both the depressive action on the cardio-vascular system and also by "the fast resistance" problem. On the other hand, the administration of this antibiotic is frequently followed by allergy manifestations of sensitive types, which have occurred more frequently since the production of the new preparation made with wax and peanut oil base.

A new antibiotic preparation, the aureomycin, does not seem to have quite the toxic effect, or to have the depressive effect on the cardio-vascular system or to show allergic manifestations in rheumatic patients. Symptoms of intolerance to the above drugs sometimes occur in forms of diarrhea and cystitis.

The fifth period in the history of the treatment of Rheumatic Disease began in 1929 when Dr. Phillip S. Hench, chief of the Mayo Clinic's Department of Rheumatic Disease observed a curious problem connected with arthritic patients. He had noticed that when an arthritic woman became pregnant, the arthritis usually disappeared and he also observed that jaundice caused arthritis symptoms to fade away. The remissions were only temporary, however, for after the patient had given birth or had recovered from jaundice, the old swellings, stiffness and pain returned.

Dr. Hench believed that the anti-rheumatic factor was probably a substance which the body produced normally at all times, but that it poured into the bloodstream in greater quantities during jaundice and pregnancy. This suggested that the adrenal glands might be the source of this anti-rheumatic factor, because it was already known that, under other conditions of stress such as anesthesia, surgical operations and certain bacterial invasions, these glands rapidly increase their secretions.

If indeed it were true that jaundice and pregnancy stimulated the adrenal glands to secrete a hormone that neutralized rheumatism, then the injection of the hormone on arthritic patients ought to have a similar effect.

Dr. Hench and Dr. Edward C. Kendall, chief of the Biochemical Laboratories of the Mayo Foundation for Medical Education and Research had often discussed the above hypothesis.

They had made an actual trial on a few rheumatoid volunteers with a cortical extract but found that this mixed extract does not produce conclusive results.

Despite this set back, Dr. Kendall continued his efforts in order to obtain a more pure specific adrenal extract. So, in 1936, the father of the Cortisone isolated a series of crystalline hormonal substances from the adrenal cortex. It is a pure compound of established chemical structure and is now produced by a chemical synthesis. This product is commercialized under different names such as Percorten-Cortone-Cortison, etc., and which structural molecule complex is a linkage of carbon, oxygen and hydrogen atoms.

After a short period of clinical investigation, Dr. Hench and his associate administered Cortisone to 13 arthritic patients (they used a daily injection of 100 mgm. for four days and then increased to 25 mgm. for 10 days).

In each instance, improvement began within a few days and continued as long as the full dose was given. A relapse followed as soon as the dose was reduced or discontinued.

Thus the evidence was clear. There could be no doubt that Cortisone had the property of opposing rheumatism. This afforded an explanation for the curious ups and downs in the disease that Dr. Hench had observed; apparently the extra burdens imposed on the body by pregnancy and jaundice somehow increased the supply or utilization of cortisone.

To obtain a quantity of this compound the size of one small tablet, a half of a ton of adrenal glands from cattle was required. So, the only hope lay in the discovery of some means of producing these compounds by synthesis.

In January 1944, Dr. Van de Kamp, senior chemist for the Merck Laboratory successfully isolated the synthesis of compound A, but its therapeutical action was of little value. A new compound was tried, the compound E, which was synthesized by Dr. Lervic Sarett almost simultaneously with the discovery by Professor Reichtein of Switzerland.

Lewin and Wassen, two Swedish investigators, observed the beneficial results of the combined injection of Dexycortone Acetate and ascorbic acid and recorded them in a paper published as early as 1949 (*Lancet* 2:993). In their opinion, there is an inter-reaction of the two drugs, to such an extent that desoxycorticosterone must be available in muscles at the time of the wave of intravenous ascorbic acid occurs. In addition, as is well known, ascorbic acid is normally present in high concentration in the adrenal cortex and is rapidly depleted when this group of tissues is stimulated.

There is definitely a direct relationship, which exists between adrenocortical function and ascorbic acid metabolism.

It should be remembered also that ascorbic acid is an oxidation catalyst, and in the stage of low vitality due to any cause such as poor nutrition and advanced age, it is always associated with reduced Vitamin C production.

Therapy with Corticosterona does not always produce satisfactory results and on some occasions side effects, which are potentially disastrous, will take place if doses of the products are too high or too prolonged. The hormone has powerful action in causing retention of sodium and therefore an associated retention of

water. Thus it may cause increased blood volume edema (peripheral, pulmonary or intra-cranial) elevation of blood pressure and enlargement of the heart shadow.

In patients with hypertension, a marked and possible more dangerous rise in blood pressure may follow the administration of cortisone.

Independent from the above side effects, the administration of adreno-cortical hormone in Rheumatic Disease is only a replacement or substitute therapy. Despite the well-advertised campaign of merits and miracles, results read by all of you in the *Life Magazine* months ago, questioned the mechanism of the production of the cortical hormone.

For the past few years and especially since the discovery of interrelated functions among the endocrine system, the close activity between the pituitary gland and the adrenal cortex has been known. The anterior lobe of the pituitary gland, smaller than the adrenal body, acts as a messenger to the adrenal cortex to such an extent that its function is considered to be the executive office that controls the internal secretions of many other glands including the thyroid, gonads, etc.

The pituitary stimulating action over the adrenal functions is known by the name of Adreno-Cortico-Tropic-Hormone A-C-T-H it is the A-C-T-H that commands the cortex to release cortisone. Therefore, instead of injecting cortisone, why not inject A-C-T-H?

A small quantity of a pituitary hormone might excite the adrenal gland to send out a large quantity of the cortisone hormone, and thus, the body would provide its own anti-rheumatic factor.

In February of 1949, Dr. Hench and his associates began to administer A-C-T-H in daily injections to arthritic patients at the Mayo Clinic. Within a few days, all symptoms of the disease began to diminish and this continued progressively as long as A-C-T-H was given in full dosage. The anti-rheumatic effects of A-C-T-H paralleled those of cortisone in practically every particular.

The production of A-C-T-H is more difficult and limited than the production of Cortisone and the synthesis of the pituitary gland has not been obtained up to the present time.

In Summary: the hormonal treatment in Rheumatic Disease marks, in the opinion of Mayo's investigators, the opening of a new era in medicine. For us, Dr. Koch's philosophy was opening this era twenty years ago.

Let us discuss the philosophical aspect of cortisone and A-C-T-H therapy compared with Dr. Koch's research, which brought persecution in the past.

At the suggestion of Dr. John R. Mote, Medical Director of Armour Laboratory, a conference was called, bringing together those to whom he had given supplies of A-C-T-H, for the purpose of exchanging reports on the results of their use of the hormone. They met in Chicago for two days.

"Never have I attended such a conference," reported one physician on his return home. "It was like a religious meeting, with men all over the house testifying to some seeming miracles. No medical gathering in history has ever heard reports of so many DIFFERENT DISEASES YIELDING TO TREATMENT WITH A SINGLE DRUG. Acute asthma, pneumonia, chronic alcoholism, Rheumatic Fever, diseases described in the medical books as widely contrasting disorders, each with its own pattern of symptoms, all had been mastered, at least during treatment by daily injections of A-C-T-H."

Dr. J. S. Browne, Head of the Endocrine Research Laboratory at McGill University in Montreal, said, "the emotional impact of that Chicago Conference was terrific." As disease after disease was reported, they sat enthralled, feeling that they were witnessing the beginning of a revolution, which, if revolution it was, was foreshadowed twenty years ago in Detroit by Dr. William Frederick Koch.

It was at Detroit not long ago (1946) that Dr. Koch and a half dozen courageous physicians began to tell the Food and Drug Administration of their now famous studies of the human body's reaction to damage. When he spoke to them, of Oxidation Catalysis, cyclic-reactions and finally prolonged drug effect, his philosophy was branded as FRAUDULENT, DECEPTIVE and without therapeutical value. But today, members of the A.M.A., authorities in the field of endocrinology, are telling us of similar conclusions. Shall we call on the Food and Drug Administration and the Federal Trade Commission and tell them that these physicians are expressing a scientific opinion that is DECEPTIVE and FRAUDULENT? But there are more interesting features of the therapeutical background of cortisone and A-C-T-H.

Dr. Hans Selye, an authority on the adrenal glands, and Head of the Institute of Experimental Medicine and Surgery in the University of Montreal, described in 1949 *the general adaptation syndrome* of the human body to injury or disease. Under exposure to cold, fractures, infections, poison or other emotional trauma the human body responds in the same general ways, i.e. (1) the alarm reaction signaled by drastic physical changes, including extreme variations in blood pressure (2) the resistance stage in which these symptoms subside, but the body is extraordinarily sensitive to other forms of damage (3) the exhaustion stage when the body runs out of its capacity for defensive reactions and dies.

Graphically speaking, in Dr. Brown's estimation, the picture of disease with the basic reactions originally described by Dr. Selye can be represented by an iceberg of which seven-eighths is submerged in water.

This invisible area represents the body's basic response to stress of all kinds and the upper part of the iceberg protruding above the water expresses the specialized responses of the body as manifestations of specific stresses. For example, the symptoms of Rheumatic Disease are the manifestations of the injury inflicted by the Hemolytic Strep Group A. of Lancefield; the symptoms of tuberculosis are the manifestations of the injury inflicted by the tubercle bacilli. But underlying them is the GENERAL RESPONSE of the body to damage of any kind, and it has just as great a significance as the special response to the infective organism. Without both the special and the general responses the disease does not exist. Generally speaking each disease is made up of this special pattern cropping out above the general response of the body.

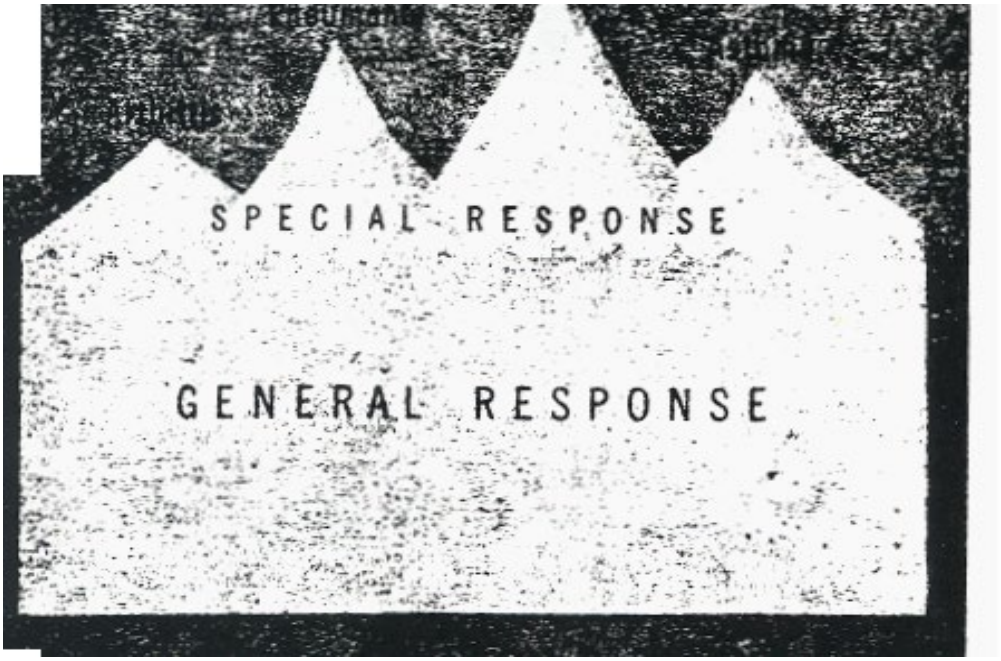


Figure 33. Iceberg Theory of Disease is suggested by the early trials of cortisone and ACTH in several apparently unrelated infectious and degenerative disorders. Small amounts of the hormones have suppressed the symptoms of arthritis; larger amounts the symptoms of asthma, pneumonia, and tuberculosis. This implies that the symptoms of disease are merely aspects of general response, or peaks on the iceberg of the body's defense.

CHART 5

Lancefield Capsular Enzyme Factor in Rheumatic Disease

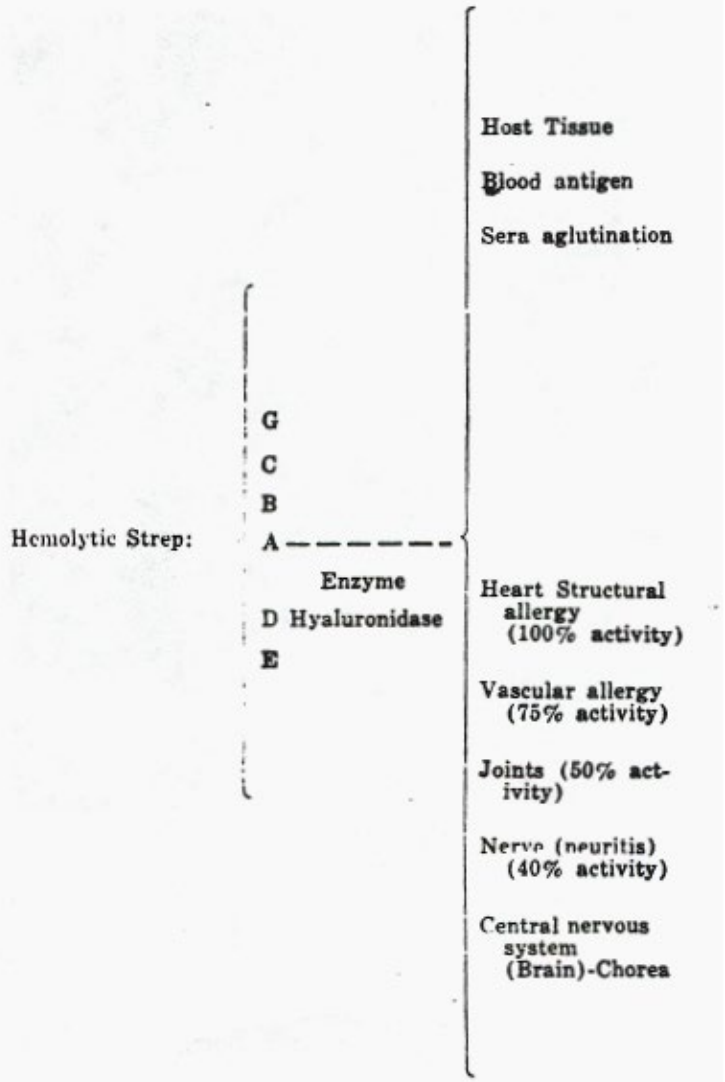


Figure 34. Arthritic ankles of two rats have been treated with desoxycorticosterone (top) and cortisone (bottom). The former has aggravated the disease; the latter has inhibited it. This response illustrates the delicate balance among the adrenal cortical hormones in the body.

The administration of Cortisone melts the iceberg so that the symptoms fall below the surface. But if you stop administering the hormones, the iceberg freezes again, and then, the arthritic stiffness and pain appear. In other words, the preparation does not retain prolonged drug effects due to its rapid elimination.

There is another interesting fact about the Cortisone therapy. From reading the leading articles concerning the developments and the isolation of the above hormones, Selye found that the cortex produces two hormones named the compound S and the desoxy-corticosterone, which when injected into experimental animals, aggravates the symptoms of disease.

However, when the cortisone is given to the same animal, the manifestations of disease gradually disappear.

In the estimation of the above investigator, the adrenal cortex hormone can both cause the disease and cure it, another statement that identified Dr. Koch 's philosophy issued 20 years ago.

In our interpretations, the reaction and aggravation of symptoms of disease following the administration of desoxycorticosterone has been erroneously misrepresented by the investigator. Instead of being interpreted as "producing disease hormone" it is just a local allergic manifestation of the hormone, which clinical manifestation will subside in the course of time.

Today, the chemistry engaged in the production of adrenal cortex hormones has been isolated into 27 different units, which perhaps, is just a matter of a tedious and too specialized technique. The so-called "steroids chemistries" are complicated matters beyond specialization, as well as new in the field of bacteriology, when they try to classify 33 different pneumococcus types and prepare specific serum for each one.

The type of the pneumococcus as well as the type of the steroid adrenal hormone are changeable in the internal chemical structure and molecular arrangements without significance to the existence of so many diversified products.

In closing the study of the pharmacological action of adrenal and pituitary hormones in the treatment of Rheumatic Disease, let us observe a frequent complication which occurs with the administration of A-C-T-H, that is, the development of hypertension and nephrosclerosis as a result of the administration of adreno-corticotropic extract of the pituitary gland, as you see in **Figures 35 and 36**. In general, the A-C-T-H therapy is used today not only in the treatment of Rheumatic Disease, but also in countless pathological conditions, particularly in Leukemia disease.

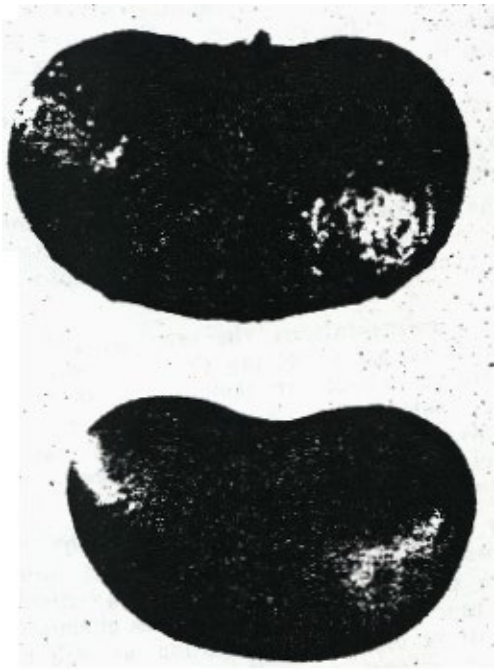


Figure 35. Enlarged kidney of a rat (top) is the result of the administration of adreno-corticotropic extracts of the pituitary. The resulting excess of adrenal cortical hormones caused the rat to develop hypertension and nephrosclerosis. A normal rat kidney is at the bottom.

The synthesis of A-C-T-H compounds is not available in our time, and the amount of pituitary extract required for ten treatments alone in one patient costs over $150.00. For this reason, a substitute for the above therapy became known with the development of Pregnalone.

This material is a steroid hormone known also under the name of Natalone with similar action to the Progesterone.

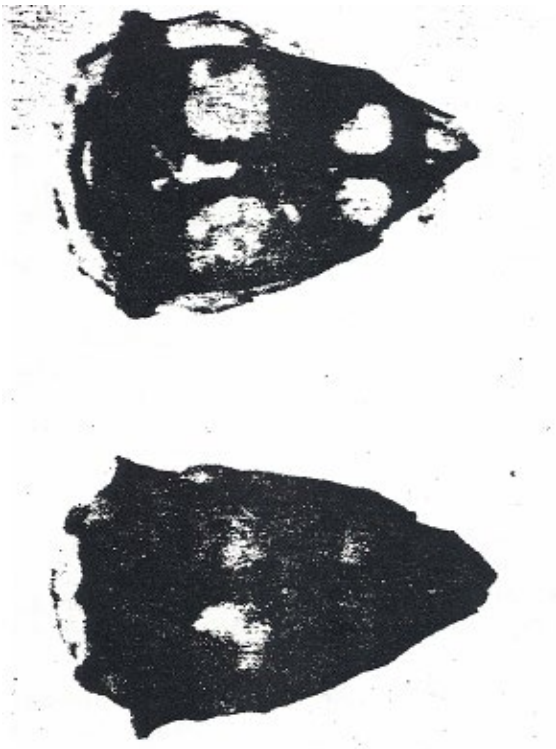


Figure 36. Open skull of a young rat (top) is the result of the administration of desoxycorticosterone. The bones in the dome of the skull were pushed apart by the high blood pressure produced in the brain by the hormone. The closed skull bones of a normal rat are at bottom.

However, from the chemical structure, the Pregnalone or Natalone has a double bond in the 5-6 position and an 0-H (Hydroxyl) on carbon 3, instead of a Ketone radical typical of Progesterone.

In our practice we are making use of this compound particularly to combat fatigue and acute stress, frequently present in rheumatic patients. A dose of 50 mgm. given orally daily may be sufficient to maintain improvement.

No claim is made, however, that the above steroid compound is the long-awaited cure for arthritic conditions. Clinical investigations have shown that it possesses definite advantages over other hormonal therapy in arthritic and related conditions, of which the following are of primary importance: (1) therapeutic efficacy, (2) absence of toxicity in a proper dose (3) some prolonged effects during the remission periods following discontinuance of therapy, (4) lack of influence on the carbohydrate metabolism, (5) does not intensify the diabetic stage, without necessity of increasing the insulin intake during administration (6) weight of patients and heart rates are unaffected, and (7) no changes in blood pressure occur, even in hypertensive patients.

In our clinic, the therapeutic dose is given orally at the rate of 300 mgm. per day, two tablets or 50 mgm. after each meal for 14 days. The following two weeks, one tablet after each meal (150 mgm.). The oral administration is also supplemented with one injection a week of 100 mgm. per cc. If no response is obtained within 30 days, the medication is discontinued.

Let us now study the final section in the treatment of Rheumatic disease. Your speaker refers to the Oxidation Catalyst drugs of Dr. William Koch of Detroit, Michigan in my estimation to be called the "Golden Fleece of Medical Research."

To any observer, the steroid hormone therapy (Cortisone and A-C-T-H) remains far from having solved the complete recuperation of rheumatoid patients, and it is amazing that as far back as 1922 an Oxidation Catalyst drug was already being used successfully in the treatment of Rheumatic Disease.

Fundamentally, the pharmacological action of Koch's carbon Oxidation Catalysts is not specifically for Rheumatic Disease its activity and curative results occupy a very prominent position in the minds of the general practitioner today.

The field of applications in Rheumatic Disease is broad, and very effective; however, the fundamental keystone of its therapeutical action is mainly the correction of the allergy mechanism always present in the Rheumatic Disease, as well as its unfailing power on the eradication of the focal infection whereever it is located.

Years ago, the interpretation of Rheumatic Disease and allergy interrelation was unknown and, perhaps, misrepresented. Unfortunately, similar errors have been occurring in other pathological conditions, particularly in cancer, with the loss of much time and many lives.

The slow advances, which have been made through the investigation in malignancy of the past fifty years, are now coming to fruition and are finding expression in chemical and allergy terms.

The carbon Catalyst has another superiority to the steroid medications. It is that the endocrine stimulant produces such an action that every patient's gland is put back to work without depending on the administration of repeated hypodermic dosage. In other words, the rheumatic patient, under the Oxidation Catalyst drugs receives a stimulation in his own glands with definite increased level in the production of his own Cortisone and his own A-C-T-H.

Let's study now the results of my experience and the percentages of recoveries made by the use of this drug on the different stages of Rheumatic Disease.

Glyoxylide is used in the majority of cases except that in the acute stages of infection (Strept throat) Benzoquinone is highly effective.

The prophylactic value of the Oxidation Catalyst drug in the field of Rheumatic Disease is of tremendous interest. A similar benefit is found in the prophylactic value in tuberculosis infection. This statement was made in our lecture in Detroit the past year.

An early clinical diagnosis of the Rheumatic Disease, in the stage of primary lesion when the patient shows a clear symptomatology of allergy manifestations, makes correction easy if the administration of the aforementioned compounds is not delayed until the ultimate developments of extensive heart pathology have occurred.

When the true fact for the correction of the allergy mechanism becomes understood by the general practitioner, the group of miserable rheumatic diseased patients who have suffered so long that they must endure irreparable damage will be forever removed from our daily consultation and hospital work.

Prophylaxis means the application of the carbon compounds (Glyoxylide) in the beginning of the symptoms and at the proper time, particularly during the time that the patient's resistance becomes lower due to exposure to a cold weakness, or nutritional deficiencies and the 'natural immunity' mechanism expressed in terms of oxidation mechanism, is in the breaking-down process. If patients are cared for properly at this time, the vast majority of heart ailments with increasing death rates in this country will be overcome early.

Let us turn our attention to the curative stage, which is the particular period when the patients come to us with clinical manifestations and complaints. They are divided into three groups:

Curative Stage:

a) Atypical Forms of Rheumatic Disease
b) Acute Forms
c) Chronic Forms

The use of Oxidation Catalysts in the treatment of Neuritis bursitis, Spinal arthritis, Lumbago, and Chorea (atypical forms) has been very satisfactory, with 75 to 8O% of recoveries. The sciatic neuritis, particularly, responds very quickly. However, the recovery process in the months to follow is always in cycles, with periodical complaints until the complete elimination of the casual focal infection takes place. A very strict dietary regulation with an especially low protein intake is recommended.

In Acute Forms such as Strep-throat infection, Rheumatic Carditis. Rheumatic Poly-Arthritis, etc., hospitalization of the patient is almost imperative. Hypodermoclysis should he used freely in the form of 5% saline 1000 cc. intravenously associated with the thiamin chloride. The administration of Glyoxylide is not followed by a quick release of complaints. As a rule, temperature, perspiration and general complaints gradually subside between the first and fifth days. The elimination of deformities is necessarily limited by the degree of permanent pathologic changes already existing.

A close observation of erythro-sedimentation test will be an important help in the prognosis of the patient. Our percentages of recoveries in the acute forms are between 60 to 75%. As a sedative for pain, we use (with good results) the Novaldine (Winthrop) grain 5 tablets on Hyocyamus 2x orally. When the clinical picture does not subside within five days after the first dose, a second dose of Oxidation Catalyst is repeated.

Special care should be given to the heart condition: coramine, caffein-sodium-benzoate, and digifoline are advisable in cases with a pulse rate above 160
.

For the Chronic Forms, the treatment with the Oxidation Catalyst has given us some interesting facts. If you remember, the chronic forms of Rheumatic Disease (Hypertrophic or Atrophic type) is the ultimate stage of a systemic disease, with a severe injury in the cardio-vascular system and particularly in the heart structure (septic endocarditis).

Before a patient of the chronic forms is treated, a thorough clinical examination should be made and should include the E. K. G. in order to establish and evaluate the reserve capacity of the heart. Here the myocardial damage plays an important part in the chances for recovery.

The Rheumatic Carditis, in terminal stage, is so predominant, that occasionally it overshadows the rheumatoid symptoms. Dyspnea, swelling of the lower extremities, auricular fibrillation or auriculo-ventricular blocks are frequent manifestations.

The administration of Oxidation Catalysts in this particular stage should be avoided. Patients, who despite our warning, insist upon being treated, develop in the months to follow (six or nine weeks) an embolism (thrombus) or acute left ventricular insufficiency. The right ventricular insufficiency is slower and is not associated with edema of any kind except a typical respiratory complication (pulmonary edema).

Patients, suffering from Rheumatic Carditis and in whom the myocardial damage is not extensive, but in who there is found valvular lesion (endocarditis), have shown improvement after the administration of Oxidation Catalysts. Some of the patients showed partial stroke paralysis from distant embolism, and even in this stage the improvement is remarkable.

Our percentage of recoveries in this group of Chronic Rheumatoid Disease is 15 to 20% in the sub-acute stage and are the top failures with the administration of Glyoxylide. On the second group without manifestations of active infection over the heart, the percentage of recovery is somewhat better, between 20 to 30%.

In Summary: the recovery percentage reaches a high pitch in the Prophylactic Stage as well as in the Atypical Forms, while the top-failures are in the ultimate Chronic Stage of heart damage (septic endocarditis).

Percentage of Recovery:
1—Prophylactic stage 80 to 90%
2—Atypical stage 75 to 80%
3—Acute forms 60 to 75%
4—Chronic forms 15 to 20%

In closing these lectures, and particularly this section on Rheumatic Disease treatment, our clinical experience in using the Koch Oxidation Catalysts for the past five years shows us that this drug possesses a definite advantage over the rest of the therapeutic measures including the late development of steroid therapy with cortisone, and A-C-T-H.

The advantages of the medication should be summarized as follows:

Koch's Oxidation Catalysts Supremacy:

1. **It is a non-toxic medication**
2. **A single dose as a rule**
3. **Prolonged effect**
4. **Minimal supporting booster medication**
5. **Correction of the allergy factor**
6. **Correction of the focal infection**
7. **Stimulation of the steroids activities**
8. **Free from side effects (High blood pressure, changes in carbohydrate metabolism)**
9. **Beneficial results over fibrosis and sclerotic tissues**
10. **Large percentage of recoveries**
11. **Incalculable value to the public**

VI. SUMMARY AND CONCLUSIONS

1. The Rheumatic Disease is a pathological condition and its importance has been increasing alarmingly during the past years due to the heart complication always present from the first appearance of complaints.

2. Statistics show that with the exceptions of cancer and tuberculosis, Rheumatic Disease occupied first place in the past year's death rate in the U. S. and there are 600,000 new cases every year.

3. Etiologically speaking, the participation of the allergy factor occupies a prominent place in the development of the disease.

4. The focal infection occupies today a secondary place: as a causative agent the Hemolytic Streptococcus Type A of Lancefield is a number one bacteria.

5. Clinically, the manifestations of the disease, particularly the so-called "Atypical Forms," are not fully interpretative by the general practitioner.

6. Among these Atypical Forms, the conclusive stage in children is frequently mistaken for brain pathology (Chorea of Sydenham).

7. Therapeutically speaking, the treatment of Rheumatic Disease has been a puzzle to the medical science and the majority of remedies have been only symptomatic.

8 Symptomatic medications such as Aspirin, Pyramidon, Phenacetin, etc. as well as gold preparations should be avoided in the treatment of Rheumatic Disease.

9. The new era in the therapeutical field has been highly advertised recently with the appearance of the hormonal compound (Steroids) of Mayo's investigators.