Scarlott fever: experience of 300 cases.

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Eastwood

Nottingham. 
april 18th 1883.
My experience of Scarlet Fever extends over the last six years, which have been spent in general practice in a colliery district amongst a population, who from want of education and ignorance of sanitary matters are most unwilling that their domestic comforts, general happiness should be disturbed by putting into force isolation, or other measures necessary to limit the spread of the disease.

The 300 cases that have come under my notice, during that time have not all occurred in different houses, sometimes as many as 14-15 in the same house, partly from a wilful disregard of all preventive measures, and partly from an inability to appreciate the old maxim that "prevention is better than cure".
A detailed analysis of the historical context and its implications on modern society is crucial for understanding the current world. The study of history allows us to grasp the complex interplay of events and their consequences, which can inform our decisions and policies today. Over time, societies have evolved from simple agricultural communities to complex industrial and technological entities. This transition has been marked by significant changes in technology, economy, and governance. The impact of these shifts is evident in our current world, where global interconnectedness is stronger than ever before. Understanding the past helps us to anticipate future challenges and opportunities, fostering a more informed and proactive approach to leadership and governance.
History

Scarlet fever was confounded with measles as late as the sixteenth century, even about the beginning of the seventeenth century, Sennert refers to Scablatina as another form of measles, and it was Sydenham who from observations made during the epidemics which occurred in London from 1661 - 1675 established the disease as a distinct, and definite fever, and laid a sound foundation of our positive knowledge of the disease, which observations of the eighteenth, and nineteenth century have confirmed, extended, and on many points elucidated, and improved. To trace down from remote ages, a mere record of the early history of the disease, would be unprofitable; it is instructive however to know that the same uncertainty as to its origin & mode of extension, has marked its character in every age. Whatever its original source or
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very quickly counteracted and
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however limited it may formerly have been in area, it now occurs in general throughout the whole world, and everywhere forms a chief factor in mortality statistics. It occurs in most parts sporadically but frequently breaks out into epidemics of greater or less severity. According to the statistics of Far the annual mortality from this disease in England and Wales from 1843-1855 comprised 1/25 and sometimes 1/20 of the entire death rate.

Theory of the action of the poison.

Scarlet fever is an idiopathic eruptive fever caused by the introduction into the system of some morbid poison, very probably of the nature of some micro-organism. The mode of action of this poison in producing its effects on the economy is a point of deep interest, and one attended with more or less speculation.
Some believe that the poison on entering the blood exerts some specific influence on that fluid, setting up a fermentation of the blood, resulting in acid products, but most incline to the view that the morbid poison is introduced into the system in the form of some micro-organism, and in the blood or some other susceptible medium, multiplies and develops in the system, and acts upon the nervous system, more especially the sympathetic and vagus, leading to interference with tissue changes, causing an increase of them, also to interference with the circulatory system, causing an increased action of the heart and increase of temperature. The poison is known to act specifically upon the mucous membrane of the throat and skin causing inflammation of the throat also inflammation of the skin (dermatitis). Coincident with the disturbance of the circulatory and nervous systems
an increased accumulation of waste material takes place from a diminished action of the eliminating organs, which irritates the central nervous system, also other serous membranes.

When the capacity for the action of the poison on the constitution is exhausted either from some change in the poison or the constitution - the morbid process is arrested, and the accumulated waste products are eliminated, and gradually a healthy action and condition of body is restored.

In the great majority of cases I have always found more or less difficulty in arriving at an accurate conclusion as to the period of incubation or latent interval of the poison, from the fact that in the first place; the source of the contagion is not always an easy matter to determine, and in the second place
Clinical Features

First Stage or Period

Period of Incubation

After the exit of the larvae or fleas from the cutaneous lesion, the larval progress as larval cutaneous lesions.

The larva, once the cutaneous lesion is established, later from some species in the lesion or the larval cutaneous lesions. The larva, once established, and the cutaneous lesion, may progress further cutaneous and systemic manifestations of the larva.
Clinical features may be resolved under 5 stages or periods.

1st the period of incubation, or the period while the poison is lying dormant in the system, or if it causes any changes they do not disturb the system in any way. This period varies considerably.

Niemeyer says 7-9 days.
Murchison says only a few hours.
Others say from 12-14 days.

Sri Dr. Watson on the 2nd day.
Cullen on the 4th day.

Grainger Stewart says, usually 2-3 hours rarely exceeding 4 days.

In the great majority of cases I have always found more or less difficulty in arriving at an accurate conclusion as to the period of incubation or latent interval of the poison, from the fact that in the first place, the source of the contagion is not always an easy matter to determine, and in the second place
The first time of exposure to the poison is often surrounded with more or less doubt and uncertainty. By far the most trustworthy information is to be obtained from tracing to a common contagion, and at the same time being certain of it being the first time of possible exposure to that contagion.

Several cases have come under my notice which have proved to my satisfaction that the latent period varies from 14 to 48 hours.

Three brothers aged respectively 1, 6, and 8 years, from a district in which there was no Scarlet fever, during school holidays visited a cousin who 4 days previously had been covered with a scarlet fever rash. In 26 hours the youngest was seized with symptoms, and two hours later the eldest was also taken ill, now this was most valuable as the contagion was from the same source, & exposure took place at the
same time, the other brother re-
-mained well for 8 weeks & then fell ill proving the individual predisposition
to the disease -

Another clear case came
under my notice a child 3½ years old
visited her aunt in a neighbouring
village ½ mile distance, & while there
was playing with a boy who had been covered with Scarlet fever rash 10 days
previously, the child returned home
and in 48 hours afterwards was seized
with symptoms of Scarlet fever -

Again on account of an epidemic of Scarlet fever pre-
vailing in a district 5 miles from
here - the school of the district was
closed for six weeks, as a good many
of the children were laid up with
the disease, at the end of six weeks
the school was reopened without being
cleaned, and disinfected, and the
children were allowed to assemble in the
school for one day only, & within 5 days from that date, I was called to 12 of these children, all covered with a scarlet fever rash, and in each case the rash appeared within 48 hours of their assembling at school. I might quote numerous other cases equally conclusive and trustworthy, all pointing to the period of incubation to be from 24-60 hours but the great majority 48 hours. I feel convinced that longer or shorter intervals must be exceptions, the long intervals being due to a re-tarded individual susceptibility and in which a fresh exposure to contagion was probable.
Second Stage of Period: Lankan

Period of Integration

- Internationalized for universal and universalizational
- Central problem: how to universalize and institutionalize
domestic and international law
- People's trial and appeal
- Domestic law: Lankan
- International law: universal

In summary, Lankan is a period of integration and universalization.
Second stage or period

- Period of invasion -

The duration of this stage is generally speaking 24 hours, and during that time the features of the disease are characteristic. In a typical case, the invasion is more or less sudden and marked by a loathing of food, often vomiting, increase of temperature with symptoms of disturbance of nervous system, in form of chilliness, rigors, and sometimes convulsions, then follows heat of skin, flushing of face, suffusion of the eyes, acceleration of the pulse, languor, dreariness, weakness, thirst, headache, soreness of throat, difficulty of swallowing, with redness of tonsils, and fauces, the tongue at the base often covered with yellow fur, sometimes red at edge, and tip, with prominent papillae, bowels constipated sometimes, diarrhea, high coloured urine. At end of 24 hours, stage of eruption begins.
Third stage or Period:

- Eruption

...
Third stage or period.

— Eruption —

This usually appears about the second day, but sometimes not until the 3rd or 4th day, detected first on the mucous membrane of the throat, and characterized by difficulty of swallowing.

It appears as a uniform diffused redness over the mucous membrane of the throat, sometimes it remains red with only a little excess of mucus on its surface, in other cases it goes on to—

Tumefaction, in some a false membrane forms like diphtheria, in others ulceration and sloughing taking place slowly or rapidly.

The eruption is first detected on the skin in the form of numerous closely aggregated reddish points or papillae with normal skin at first between them, after extending until the whole surface becomes uniformly red. There is more or less oedema & swelling of the skin from
Distribution of Eruption

The eruption is most extensive in the form of an eruption column. The plume in the form of an eruption column ascends, reaching levels of altitudes where it may be seen or heard. The eruption column may extend for thousands of kilometers, reaching altitudes of several hundred kilometers.
the dermatitis present. These minute red papilliform points increase soon in size, their colour becomes more brilliant and their margins gradually coalesce until the whole skin assumes a uniform scarlet hue. But yet on close inspection the punctiform reddish points, or papular character of the rash is still distinguishable.

**Distribution.** It appears first on the chest, neck, inner aspect of the thighs, and arms. The papules, or red points are most perfectly developed, and most vivid in those parts, rarely distinct on the face, often more or less patchy, the same applies to backs of hands, dorsum of feet, and legs, where they are not so crowded together, but attain a larger size, and appear slightly elevated above
the skin, but not nearly so much as the rosealæ of measles. The degree of redness may vary from a pale to a dark scarlet red; as a rule the redness is in direct proportion to the intensity of the disease, a dark livid appearance, approaching a violet hue being generally indicative of a severe case. So that the darkness of the colour of the rash is generally in proportion to the malignancy of the disease, to the depression of the vital powers, and to the amount of vitiation of the blood.

Time occupied by the rash varies. Sometimes it comes out rapidly; at other times slowly; in some cases the eruption is so slight as almost to be overlooked; in other cases its occurrence is extraordinarily delayed, such cases are
History of Perceptions

Some occurrences in the very recent past of percepts and sensations, and their apparent consistency, may have led us to think of the universe as a thing distinct from ourselves. On the contrary, it is more likely that our sensations and perceptions are the result of the universe reacting upon itself, as a whole, and that this reaction is the focus of our attention.
apt to prove very severe. 

Trousseau narrates a case in which the stage of invasion was prolonged for 5 days and during that time no eruption appeared, but at last it appeared on the 5th day. Such cases of delayed appearance of the eruption are very rare and generally turn out to be of a malignant character or type.

History of eruption - The eruption generally goes on advancing for 3 days, remains at its height for one day, and fades away in two days, so that it is out for six days, very often on the seventh day from the rigors the rash is all away.

While the rash is attaining its maximum development, the other symptoms are increasing in intensity,
the temperature rises, the pulse increases, respiration much accelerated.

the tongue changes its yellow fur, coated aspect to a morbidly red appearance, denuded of epithelium with prominent red papillae giving rise to the characteristic red strawberry tongue, but often the tongue is coated with a white fur through which the swollen papillae project constituting the white strawberry tongue.

Symptoms of disturbance of the alimentary system arise, such as loss of appetite, vomiting, diarrhea, or constipation.

Disturbance of the urinary system in the form of transient albuminuria takes place often about the height of the fever.

The nervous system is also affected as shown by headache, sleeplessness, delirium and coma.
Fifth Stage or Period

Convalescence.
Fourth stage or period.

Resolution. This takes place about the seventh day by crisis but not very suddenly. The rash begins to fade by parts assuming a violet tint, afterwards a pale rose, or coppery hue, and if a mild favourable case, the other symptoms subside, such as throat complications, pulse, and temperature are also reduced, tongue becomes moist, thirst delirium, and other nervous symptoms also disappear. Sometimes the temperature remains high owing to complications.

Fifth stage or period.

Convalescence. This is the stage of desquamation and begins from the sixth to the ninth day. In mild cases it may be deferred for several weeks in severe
cases it begins sooner, being the result of the dermatitis. It follows
the same course as the rash did on appearing, viz.: first on chest, side
of neck, inner aspect of thighs, and arms.
As desquamation proceeds the surface becomes pale, the epidermis exfoliates
in small whitish, bran-like scales on the
trunk of the body, and in large scales
or flakes where the cuticle is coarser,
and thicker, as on the palms of the
hands, and soles of the feet.
The scales, or scurf are loaded with
the poison—DURING THE STAGE OF DE-
-SEQUAMATION, THE TEMPERATURE STAYS
above normal, and it is not com-
pleted until the end of the fourth
week from the initial rigors, and some-
times the end of the sixth week.
This stage is attended with more or
less danger for during it, albuminuria
with dropsy, and uremia occur, and
Types of Scarlet Fever

*Scarlatina Simplicissima*

*Anginosa*

*Maligna*

*Salmon*
convalescence is often retarded by serious consecutive affections and sequelae which ought to be anticipated and as much as possible guarded against.

Types of Scarlet Fever.

There are four generally recognised types under which it is convenient to classify the different cases and arrange properly our ideas of the character, and treatment of each, viz.

I. Scarletina. Simplex.

II. Anginosa.

III. Maligna.

IV. Latens.

We must remember that these are but various phases of one disease which fall into each other imperceptibly, so that while cases which may be assumed as typical of each division vary very much,
I  
Scarlatina Simplex.
there are others which are with difficulty classified under any of those types or divisions.

I. Scarlatina Simplex. I will describe each of these types in turn, taking the simplex first, which is supposed to be the normal condition of the disease, and in which there is simply the eruption with no sore throat.

The onset of this is always unexpected, very rarely are there those premonitory symptoms, such as loss of appetite, languor, and headache which are generally found in other febrile diseases. The invasion is generally in the night, a child will retire to bed in usual health, and about the middle of the night will wake up with sickness, and complaining of being restless, and fretful. Skin hot, great thirst, and in 24 hours neck, chest &e will be found covered with a vivid scarlet rash con-
existing of minute points, interspersed upon a uniform efflorescence which disappear under pressure of finger but instantly renewed on removal. The pulse will beat from 120-160 with a temperature reaching 104 & over. The tongue is coated with a white fur through which the prominent papillae project. On looking at back of the throat the tonsils and palate will be found of the same vivid redness.

From this sudden onset the disease pursues a rapid course, the rash extends over the whole body during three days, begins to fade away on the fifth day, of the rash, the pulse still remains quick through the whole rash, also the temperature high. The rash is not elevated above the skin as in urticaria, and measles, but sometimes over the chest, neck and abdomen clear vesicles of minute size called buckthorn made their
appearance. The condition of the digestive system varies much, in some cases there is an entire loss of appetite, in others a constant desire for food. The bowels are unaffected in this form in the primary stage.

The kidneys are healthy as regards secretion for the first four days but towards the 7th or 9th day of the disease the urine becomes scanty in quantity and high coloured.

The functions of the skin are impaired according to the intensity of the eruption.

From the 6th to the 9th day the appearance of the tongue changes, it is entirely denuded of its fur and looks red smooth and glazed with prominent papillae on it. Coincident with the change in the tongue and disappearance of the rash desquamation begins, the cuticle separates in thin scales from neck chest arms legs etc.
The symptoms are sometimes so mild in the different stages of this type, that no medical aid is called on, but nevertheless in those mild cases there is always a danger from the sequelae. It must not be supposed that all cases of Secalativa Simplex are mild in their character, for in some, from the intensity of the cause, or peculiar constitution of the individual, the nervous system becomes impressed severely, and we have delirium, convulsions, headache, and stupor. Again on the 3rd or 4th day it is no uncommon event to have the patient complain of pain in the ears, or be overcome with drowsiness, either of which conditions after continuing 24 hours will in all probability be followed by a discharge of thin serum from the external meatus auditorius which decorates the neighbouring skin, and
II. Scarletina Anginosus
gives rise to a vesicular eruption.

II. Scarlatina Anginosa. In this type or variety we have the same series of events, just described generally in an aggravated degree. The rash may appear more vivid, or it may be present only in patches about the back, and abdomen, or plexures of the larger joints. The nervous symptoms are more often manifested, and more violent when present. There is often great tremor of the muscles, with disposition to sleep.

The throat symptoms are more aggravated; besides redness, there is distinct enlargement, and swelling of tonsils and soft palate, with a great deal of viscid mucus adhering to it; sometimes, there is also an enlargement behind the angle of the jaw, accompanied with
difficulty of swallowing, and stiffness of the neck. On examining the faucæ, there will often be seen deposits of lymph upon the tonsils, of a white or grey colour, which are sometimes mistaken for ulcers, and can be easily removed by means of a gargle or a mop. In some cases, these deposits of lymph cover ulcerated spots on the tonsil, which ulcers sometimes spread from the faucæ, through the eustachian tube, to the membrane lining the inner ear, giving rise to otitis; more frequently the membrane lining the external auditory meatus takes on ulcerative action, as mentioned in the simplex type. In both cases there is great pain, and the ulcerative action spreads from the soft part, and involves the bony structure of the ear, destroying the ossicula and resulting in perpetual and permanent deafness, and an offensive
discharge from the ear.

The tongue as in the simple case loses its coat, and looks very angry, and glazed, and after the ulcerative action will affect the side of the tongue, and posterior nares and fauces, then the lymphatic glands of the neck become enlarged, and swollen, and painful to the touch, whilst accompanying this condition, there is often a great deal of effusion into the cellular tissue of the neck, rendering deglutition impossible and respiration difficult. In more severe cases, the cellular tissue gets so infiltrated with serum until the hollow between the clavicles, and angle of the jaw, is filled up, then the head is thrown back to relieve the pressure on the larynx, and throat, the nostrils also discharge a thin acrid matter which excoriates the neighbouring skin; the conjunctivae
become injected, and a most offensive sweet putrid odour is emitted from the throat. In more severe forms of this type with a typhoid tendency large abscesses are formed in the cellular tissue of the neck, and gangrene and sloughing take place. In this anginose type the stages of the disease are as regular as in the simple, but not always so perceptible, due to the secondary sources of irritation, which produce fever more intense than that already described, which naturally terminates on the 7th day.

In the most favourable cases the subsidence of the fever on the 7th day is generally followed by a decline of the ulceration, glandular swelling, and throat complications, but after the effusion into the cellular tissue of the neck, ulceration of
Scarlatina Maligna
tonsils, and glandular enlargement, produce an increase of temperature.
-ure before the 7th day, & keep up the increased temperature for some time and in this way disturb and distort the natural course of events, so that the stages are not easily recognized.

III. Scarlatina Maligna.

To this type belong cases wherein there are severe nervous symptoms & great fever which may prove fatal at an early stage of the disease, or severe croup or throat which may end fatally at a later period, in fact all cases in which the symptoms are unusually severe and in which death tends to take place rapidly come under this type.

The epithet "maligna"
To this letter

I am pleased to announce that there are several

Varieties

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is by no means a happy one for while it expresses nothing distinct concerning the nature of the disease, it involves an hypothesis as to the presence of something hostile to the principle of life. It may thus mislead to a certain extent.

The course of the disease in this type cannot be reduced to the same regularity as regards the stages, as in the fulminant and anginosi.

Varieties of S. Maligna.

There are several varieties of this type according to the mode of death.

1st. Nervous. This is a variety which kills the patient at the very onset, sometimes on the 1st day of the disease, often before the rash makes its appearance. It is before the throat symptoms are manifested, due to
the poison paralyzing the nerve centres. Or again the rash may appear, and then disappear suddenly, to be followed by severe nervous symptoms, rigors, convulsions, tremulousness of muscles, delirium, high temperature, rapid, quiet pulse, shallow respiration, dusky countenance, and anxious expression.

I have met with 3 such cases in my practice, all proving quickly fatal. But I imagined that life was prolonged by a hot bath, by rubbing with mustard while in the bath, which partially brought the rash out again, and prolonged life for several hours.

2. Syncopal variety.

In this variety death takes place from sudden collapse with abrupt fall of temperature. It would seem that the poison acts principally on the
circulatory system by paralyzing the heart.

2nd Typhoid Variety. In this variety, the local symptoms are moderately developed, not much ulceration, or swelling of tonsils or lymphatic glands, but the temperature remains abnormally high after the 4th day, and the tongue becomes brown and dry. Indications of disturbance of nervous system take place as manifested by headache, drowsiness, delirium, deafness, and general apathy; pulse quick and small, skin hot, and dry.

Such symptoms may continue for 3 or 4 weeks, and then dropsical symptoms supervene, indicating kidney mischief. If the fever does not soon abate, then typhoid symptoms are developed, low muttering delirium, resulting in death.
1st Gangrenous Variety.

In this variety the local symptoms are very severe with a high temperature; the ulceration of the throat increases, deepens, and destroys the tissue, and gradually involves some large blood vessel, leading to haemorrhage and resulting in death.

5th Haemorrhagic Variety.

In this from the onset the symptoms are severe — high fever, with cerebral symptoms, rash imperfectly developed, of a dark purple, or livid hue. The blood being so altered in its composition by the poison, that haemorrhages occur in the skin instead of the rash and often bleeding from the nose and other parts take place.

It would seem in this
variety that the effect of the poison is chiefly concentrated on the blood, altering its composition so that it escapes from the blood vessel, but no doubt the efferent motor nerve centres which supply the blood vessels are deeply impressed, which may with the change of the constituents of the blood, account for the escape of the blood from the blood vessels.

6th. Gastro-intestinal Variety. In this variety there are symptoms of disturbance of digestive system, and intestinal tract, such as sickness and diarrhoea. The local symptoms are in this variety very severe, tonsils are swollen, and ulcerated, also—more or less swelling of the lymphatic glands.
IV. Scarlatina Latens—Comprises cases wherein there is no eruption and in which no complaint of sore-throat has been made, or other symptoms observed, but after an indefinite period of exposure to contagion, certain symptoms occur which are known to be sequelae of scarlet fever poison; viz. desquamation, albuminuria, with anasarca, or both. The number of cases of this type depend to a great extent upon the acuteness of the practitioner to diagnose them.
Conclusions and discussion

...
Complications & Sequelae. Are very numerous, and may occur at any period of the disease. Sometimes they occur suddenly without any warning whatever, at other times they may be preceded by some insignificant symptoms, or it might be significant symptom such as the sudden disappearance of the rash.

There are two classes of complications:

1st. Those which appear to be a mere continuation of the local lesions developed during the course of the disease, and confined to the same vicinity.

2nd. Those which are due to congestion of kidneys, and not directly connected with primary lesions of ears.
Inflammation of Stomach

Comproollarations of the food in the stomach leads to increased production of acid, which causes damage to the stomach lining.
Under the 1st class of complications we have (a) affections of glands.

The lymphatic glands of neck and parotid become inflamed and suppurate, and require to be opened.

(b) Inflammation of ear.

This may arise from the inflammation extending from the pharynx along the eustachian tube to the inner ear, causing otitis with disease of the petrous bone, and resulting in deafness. Or the inflammation may extend to the brain, and result in abscess or pyaemia. The middle ear may be primarily affected, or the external meatus.

If the external meatus is only affected appropriate treatment will soon rectify it. But when the middle or inner ear is affected
2nd Class.

Pleura.

1. Class.

Croup.
nothing but deafness can result.

(c) Croup may occur as a complication and generally proves a formidable one. The ulcerative action of the throat partakes of a croupous character which spreads and involves the larynx. One case came under my notice 3 years ago in which croup supervened during the second week of the disease and proved fatal in five days after its appearance.

(d) Diphtheria also occurs as a complication but very rarely, at least not so often as croup.

2\textsuperscript{nd} Class of Complications not directly connected with primary causes.

(a) Cerebrisy. By no means a common complication but when it does take place it comes on rapidly and is
Rheumatism

(c) Pericarditis & Endocarditis

The heart and other structures are discussed in the cardiovascular section.
characterised by slight local disturbances or symptoms, is generally confined to one side, and the effusion has a tendency to become purulent.

(6). Rheumatism is a more frequent complication, and may occur during the decline of the fever, or during convalescence, and behaves in the same manner as under ordinary circumstances, affecting successive joints, and accompanied by swelling and pain. It often results from carelessness in premature exposure, and is apt to occur after mild cases therefore.

(7). Pericarditis and Endocarditis are perhaps the most formidable complications mentioned by writers on this subject. The suddenness and violence of the onset of these complications convert a hopeless case
(d) Inflammation of joints

(1) Inflammation is a severe feverment

Complications may occur: acute urticaria

Practically all the fever or arthralgia causes the same

(2) Renal complications

(3) Cardiac complications and so forth

(4) Neurological and other complications are:

- Paralysis
- Myasthenia gravis
- Meningitis

(e) Kidney involvement is most frequent and serious

Decompression of the urine is the most effective method to treat these complications.
into one of great anxiety. Pericarditis generally occurs with rheumatism but by no means always.

(d) Inflammation of joints, sometimes occurs as a complication, supposed to be disconnected with rheumatism, but rarely goes on to suppuration.

(e) Renal complications are by far the most common. Nephritis may occur early or late, inflammation of the tubule was known to have occurred long ago, but only recently known that the glomeruli were affected.

Recognized by 1st drop in nearly all cases at 2nd by bloody urin, copious tube casts.

The drop in occurs as anasarca, as eosin infiltration of the subcutaneous cellular tissue, with often effusion into the larger cavities.

This complication bears
no relation, or rather an inverse relation to the severity of the disease, being more common after a mild case than after a severe one.

Thus in the malignant, irregular types, the eruption is slight and transient, and death takes place often in the first week from injury to the nervous system, while in mild cases of the amplexus type, with abundant eruption, if death does occur, it is generally the result of dropsical effusion, or some other secondary affection.

There is no doubt a close and direct connection between the affection of the skin, dermatitis, desquamation, and the appearance of dropsy.

When the rash has been abundant and vivid, desquamation is then most marked; and in those cases we have most to fear from dropsy, while in those cases in which there has been a slight rash and
consequently a minimum amount of dermatitis and desquamation the functions of the skin are not much interfered with and there is not much danger of the occurrence of dropsical effusions. Again in the simple and anginose types dermatitis is most severe and the functions of the skin are more interfered with than in the malignant type, and all writers are agreed that dropsy is more apt to occur in mild and regular cases than in severe and irregular cases. I think there is little doubt that the functions of the skin are interfered with by the appearance of the rash, and coincident with this there is more or less cataract of the tubules of the kidney. This cataract is not accompanied by diminished secretion of the urine, but with cylindrical casts, and cloudy
epithelium, sometimes a trace of albumen, but often an entire absence of albumen. Now as desquamation proceeds, this catarh may pass off during the second week, or it may go on to glomerular nephritis, with bloody urine, abundance of hyaline, and epithelial casts with red and white blood corpuscles and abundance of albumen. In 50 per cent of my 300 cases, I found a trace of albumen from 3°-7 day, while in the other 50 per cent, there was an entire absence of it.

About 10 years ago I contracted scarlet fever of a mild type, there was abundant rash, I examined my urine daily, and found nothing abnormal until the 3° day of the rash when there was a trace of albumen, with cylindrical casts, and cloudy epithelium, in the 4°, 5°, and 6° day of rash, still a trace of albumen, with the
cylindrical cast, and cloudy epithelium; but on the 8th day of the
disease, the albumen disappeared but cloudy epithelium and cylindrical
casts were found up to the 18th day of the disease or 10 days after the dis-
appearance of the rash. During this time the quantity of urine was
normal. After the 18th day of the disease time was no albumen, no
cast, or no epithelium. On the 23rd
day of the disease, I exposed myself
to cold by leaving my room, and
visiting an urgent case at night,
and on the 24th day time was a
diminished secretion of urine with
albumen, cast, and blood corpuscles,
but with careful treatment by the
50th day of the disease my urine
was quite normal so that in my
own case there was a gradual
marging of the calamine into the
glomerular nephritis.
Proportion of cases of ascariasis

time of occurrence of dysentery
The anasarca is generally preceded a longer or shorter time by feelings of languor, drowsiness, loss of appetite, and not infrequently by nausea, and vomiting, coated tongue, great thirst, and dryness of skin, the pulse is quick, hard, and corded; there is always more or less suppression of urine.

Proportion of cases of anasarca—20 percent or 60 cases out of the 300 suffered from dropsy afterwards, but the number depends to a great extent upon the character of the epidemic, and also upon the amount of care or trouble taken by the mother afterward.

Time of occurrence of dropsy.
In 50 of my 600 cases anasarca with diminished secretion of urine—albumen took place between the 1st and 14th day.
of the disease.

In the other 10 cases, anasarca did not make its appearance until between the 14th and 21st day.

Age at which anasarca occurred

Between 5 and 7 years in 10 cases...

3 and 5... 16

8 and 9... 4

Though no amount of precaution can wholly remove the liability to this result, it is by no means uncommon to find it brought about by exposure to cold or to error in diet, and it has been supposed by many that it is to the neglect of care on these points, resulting from the idea, that the disease has been too much to require it, we may ascribe the greatest proportion of frequency, after the mildest cases of Scarlet Fever.

These irregularities of diet, and
exposures act merely as the disturbing causes which derange the normal action of the organism and thus overcome the power of resistance, which would otherwise have been sufficient to carry the patient safely through the period of disturbance consequent on the primary impression of the cause of the disease.

Although exposure to cold, and irregularity of diet, may often seem to be the exciting cause of this sequelae, still there is often something in the character of the epidemic which determines more or less an influence in producing this, for in some epidemics I have noticed an entire absence of this complication, and again another epidemic will be characterized by an unusual number of anaemic cases, even where the most rigorous diet has been observed
and in whom exposure to cold or draught has been sedulously avoided. Another determining cause of anasarca, is to be found, in the strumous diathesis, which is marked by a diminished power of resistance, and a greater susceptibility to the chronic forms of disease, and in all most severe cases of anasarca, the strumous diathesis could be traced to each of them.

The subcutaneous cellular tissue, is the most frequent seat of the dropsical effusion, and next to this the pleural sac, or lung tissue. The least frequent seat is the ventricles of the brain, which is the most fatal, indicated by the occurrence of stupor, violent headache, vomiting, slow pulse, pupils unequally dilated, impaired vision, convulsion, paralysis, and strabismus.
etiology

our work was based on the application and extension of the principles of the theory of evolution. We began our study with the assumption that all living forms have evolved from a common ancestor. This ancestor, we believed, was a single-celled organism that lived in the primordial oceans. Over millions of years, this ancestor gave rise to the diverse array of life forms that we observe today. We used the principles of genetics to understand the mechanisms by which these changes occurred. We believed that natural selection played a key role in this process, allowing certain traits to become more prevalent in certain environments. Our work was guided by the principles of Charles Darwin's theory of evolution by natural selection. We aimed to understand how the characteristics of living forms are passed from generation to generation, and how these characteristics can vary within populations. We worked to develop a comprehensive understanding of the factors that influence the evolution of life forms.
- *Tetology* - Has given rise to diversity of opinion, but it is admitted that it is a peculiar substance, which is transferable from the patient to the unaffected individual. The evidence in favour of the contagiousness of Scarlet Fever is so positive, that little doubt can be raised. We see constantly the disease spreading and reproducing itself in a district after it has been introduced from without, through the medium of a Scarlet Fever patient, or through some substance which has come in contact with a Scarlet Fever patient.

A short exposure to the contagious atmosphere of the sick will suffice for infection. Cases are narrated of its being spread by means of a letter. A recently milk has been thought to be a common medium of its spreading in districts.
Age at which it occurred.

The occurrence of a phenomenon, and in particular, the occurrence of phenomena, may be influenced by the occurrence of phenomena in previous events. Correlation can be misleading. It's wise to be cautious. Place little weight on the occurrence of phenomena, even if correlated with other phenomena. Communicate the occurrence of phenomena, but do not rely solely on correlation. Correlation is not causation.
The age at which Scarlet Fever most frequently occurs has occupied the attention of many observers. It was formerly thought that the disease was rare if not absent in babies at the breast. It is certainly rare under 6 months and increases after that age in frequency.

From an analysis of my 300 cases I find that 2 cases or .6 per cent occurred under 1 year

<table>
<thead>
<tr>
<th>Age</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>1-2</td>
<td>3.3</td>
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<tr>
<td>3-4</td>
<td>12.6</td>
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<tr>
<td>4-5</td>
<td>3.0</td>
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<tr>
<td>5-6</td>
<td>21.6</td>
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<tr>
<td>6-7</td>
<td>13.3</td>
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<td>7-8</td>
<td>6.6</td>
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<tr>
<td>8-9</td>
<td>2.6</td>
</tr>
<tr>
<td>9-10</td>
<td>5.0</td>
</tr>
</tbody>
</table>

It would appear therefore that in this district 30 per cent are susceptible between 3 & 4 years.
50 per cent between 3 and 5 years of age. The susceptibility therefore declines after the 5th year, 5 per cent being only susceptible after the 9th year. At the same time it would be unfair to attribute to age any direct relationship to the cause of the malady; age cannot be looked upon as either predisposing or preventive. It is due to the non-recurrent character of the disease after one attack, and to the extreme susceptibility to it of all who have not suffered, that the ratio of cases at different ages is so marked. Children of 3 or 4 years who are by that time permitted to run about, and are also susceptible to it, are naturally more subject to exposure than infants who are at the breast; the former therefore suffer most.
Influence of Sex
And for the reasons that the majority of cases take place early in life and that the disease is non-recurrent as a general rule, children over 10, and adults, are to an extent proportionately large to the whole population, protected from the disease.

Influence of sex.

Differences of opinion prevail on this point, but no trustworthy statistics have as yet proved that sex exercises any influence whatever. In some epidemics more males are affected than females, and vice versa. There is a prevailing idea that amongst adults females are more subject to it than males.

Of my 300 cases, 160 were males, 140 were females. But I consider that there is not sufficient
Recurrence

Influence of disease -

Influence of aspiration

Phrenic paralysis or control

Influence on the heart, lungs, and circulation

Infarcts, embolism, aneurysms, perforating injuries

Coma -

Blood pressure of 100/50 mm Hg - high output state

Bleeding of the central nervous system

Fever -

Abdominal pain -

At over 300 cases, no more cases.
evidence to show that race has any influence predisposing or otherwise on scarlet fever. All evidence tends to prove that male and female are alike susceptible, provided they are alike exposed.

- Recurrence in the same person.  
  Opinion is divided on this point. The well known assertion of Willan that out of 2000 cases of this disease, he had never met with one in which it had happened for the 2nd time in the same person, has been mentioned by nearly all writers on the subject, and has led many to believe that the disease could never occur twice in the same individual. This belief is however quite erroneous for well authenticated cases have been recorded of second attacks. Although I have not
Influence of the soil & drainage

...
met with a case myself, since I take it that the phenomenon of recurrence is most exceptional. It is satisfactory to know that so far as I can make out no case of second attack of scarlet fever has proved fatal yet.

Influence of conditions of the soil and drainage—

I think there is little doubt but that defective sanitary arrangements, overcrowding, bad ventilation, to a great extent increases the predisposition to this disease. I have noticed in this district that an outbreak of scarlet fever generally originates in a part of which the drainage is defective, and in houses in which the sanitary arrangements are incomplete, e.g., bad ventilation and overcrowding, showing that un-sanitary condition produce a peculiar...
state of health, which predispose the individual to this disease. And again individuals who reside in such unsanitary places, are rendered more susceptible to the influence of the scarlet fever poison, in consequence of their vital powers being kept at a low ebb by the vitiated atmosphere, thus rendering them less resistant to the contagion. So that whatever agent has the power of producing degeneration of the blood, whether by long watching, anxiety, bad food, bad hygiene influences, all such conditions, conduct to the production of the worst form of the disease. The most malignant cases in this part have occurred in houses in which the drainage was bad and ventilation equally defective.
Influence of Family Reeducation

Influence of Individual Predisposition
Influence of family predisposition.

I have noticed that members of some families have shown an intense predisposition and have all suffered most severely, although families on each side of them have suffered from a mild type. And again I have come in contact with families, who although exposed to the contagion frequently still have never become infected, susceptibility on their part seems entirely absent.

Influence of individual predisposition.

Several interesting examples of this have come under my notice one in particular viz. Scarlet fever broke out in the house of a large family of which 3 members were despatched to an uncle's house, 50 miles distant; within a few days of their arrival, 3 members of the uncle's family manifested the disease, while the
Influence of Season

Mortality
3 visitors remained proof against it; this proves clearly that the poison can be carried by individuals totally unsusceptible to it.

Influence of season, of the year, and temperature in favouring the origin of this disease, or promoting its diffusion is very uncertain. By some writers, the winter and by others, the summer is mentioned as peculiarly liable to its prevalence. Some of the most malignant epidemics in this country have occurred during the damp and changeable weather of spring and autumn months.

Mortality.

Most writers on Scrofula have depicted it in mournful terms, the frightful savage, which this disease has caused — 1848-1856.
Influence of Social Position, etc.
the mortality was 1/25 and in some
years 1/20 of the death rate.

Some epidemics are attended with
a much greater mortality than
others. -- A mortality below 10 percent
is considered a mild epidemic.

Social position and occupational
relation are supposed to affect the
death rate. Statistics go to show
that mortality increases with poverty
and diminishes with affluence.

I conclude that the more efficient nursing
and measures of isolation, better
ventilation, and more healthy houses
in cases of the rich and well to
do, would account fully for the
disparity of mortality in the two
classes, as I cannot see how there
can be any difference in individual
predisposition of the two
classes.

The mortality in any 300
cases was 8 per cent. or 24 deaths.
Time of death

Cause of death
and of these 50 died under 4 years
20 - - - - between 1 and 5 yrs.
12 - - - - 5-6
8 - - - - over 6 yrs.
so that 70 per cent. died under 5 years.

Time of death of 14 cases
4 cases, or 16 per cent died during 1st week
5 - - 20 - - - 2nd
9 - - 37 - - - 3rd
6 - - 25 - - - 4th

Cause of death of 14 cases:
4 died from malignant meningitis
3 - - Pleurisy
1 - - Pneumonia
1 - - Croup
6 - - Acute of sympathetic & neck
7 - - Abscess with William Florence
2 - - Effusion into ventricle of brain
occurrence of mast within 18 mo.
Diagnosis

Case of bladder to 10 years. At 2 1/2 years.

Fever in April...

A fever in May.

July...

September...

October...

November...

December.

January.

February.
Diagnosis. A characteristic scarlatine rash is very easily detected, by noticing the minute, punctate appearance of the rash at first, and this punctate appearance of the rash is still present when the rash is confluent. The uniform development of rash over the body is an important factor in assisting us to come to a correct diagnosis. The absence of rash from the face, especially about the mouth should be borne in mind.

If the eruption is not very distinct, there is generally no difficulty, as with the state of the tongue, which will generally lead to a correct conclusion. In every case where there is a sudden invasion of fever, with sickness, and the occurrence of rash within 48-72
From Measles
Sealer fever should be suspected. As a rule the well marked anginose, and malignant forms case not be well mistaken; it is generally in the simplest, and irregular cases, that we are apt to fall into error. These divers may quickly lead to the most violent and fatal forms, even the mildest case may become serious, if not properly treated.

There are several diseases which may be mistaken for Sealer fever.

1. Measles was for a long time confounded with it.
   Invasion of Sealer fever is shorter than in measles. Rash of Sealer fever appears in 7th, 8th, or 9th day. Measles not until 14th. Early angina in Sealer fever.
   Absence of it in measles, also absence of strawberry tongue, or swollen glands, but presence of coughing, coryza, sneezing.
of conjunctiva.

There is also a marked difference in the appearance of the rash. The eruption of measles may be first seen about the roots of the hair, and behind the ears, in circumseribed well defined spots, which as they spread assume a crescentic arrangement, several spots being grouped together, and surrounding patches of skin of perfectly natural appearance. The punctate appearance of the rash is absent in measles.

There is also a difference in colour of rash, in scarlet fever it is of a fluid, vermilion tint, in measles it is of a dull lake colour.

Again in the sequelae of the two diseases, we have the most striking evidence of their diverse origin, and nature. Thus in scarlet fever we have affections of
2.

From Richarda:

[Handwritten text not legible]
brain, kidneys, cellular tissue, clearing of throat, and ears, abscesses about the neck, and rheumatic pains; while after measles, we have chiefly affections of the air passages, bronchitis, and pneumonia. But while there are these important and well-marked points of difference between the two diseases, still cases occur in which it is almost impossible to discriminate with certainty. During the progress of the disease, and it is even possible that in some cases, there may be a miroquel disease as though it were the result of a mixed influence, commencing as scarlet fever, running a course, and terminating like measles.

2. Rubella or German measles.

Between this and scarlet fever, there is still greater
The disease variola, called smallpox, leads to severe symptoms and can be fatal. It is caused by the variola virus, which belongs to the orthopoxvirus family. The disease is highly contagious and can be transmitted through direct contact with infected skin lesions or respiratory droplets. It is responsible for millions of deaths over the centuries and has caused major outbreaks. The disease can be prevented through vaccination with the smallpox vaccine. However, the disease is no longer naturally occurring, as smallpox was eradicated by the World Health Organization in 1980.
difficulty for in German measles, there is more or less angina, and also lymphatic glands enlarged to a certain extent, but the duration of the rash, its presence on the face where it appears early, also the absence of the strawberry tongue will generally be sufficient to guide us to a correct diagnosis.

The anterior part of the face is red in rubella, while the posterior part is affected in scarlet fever.

3: Variola. There is often in cases of small pox a diffuse efflorescence on the 2nd day, with more or less angina, but gastric oppression, pain in the back, comparatively slow pulse, and want of the punctate appearance of the eruption, will generally distinguish them.
From Pharselus

It is said that Pharselus was a great philosopher and mathematician. His teachings focused on the harmony of the universe and the relationship between the physical and the spiritual worlds. He believed in the existence of a higher power that governs the natural order of the world. Pharselus's work laid the foundation for many later philosophers and mathematicians, including Euclid and Pythagoras.
4. "Tropipelas. . . absence of the punctate appearance of the rash, edema of the cuticle, history of the case. . . and the fact of desquamation in the long run will prove which it is.

There is sometimes considerable difficulty attending the diagnosis in malignant cases, which prove quietly fatal without any eruption, but the fact of an epidemic of scarlet fever being prevalent also the angina with severe nervous symptoms, high fever and rapid course of the disease will generally decide.

A moderate amount of angina, tonsils and lymphatic glands.
Prognosis. Is always uncertain and indefinite, so treacherous is the disease, and so liable to serious complications, and sequelae that it is safest always to give a most guarded opinion as to the result. No case is so desperate as to shut out hope of recovery, and none so mild as to exclude anxiety.

The constitution of the individual, and above all the type of the fever present, should have weight with our judgment. When the fever runs a normal course, passing through the different stages in a regular manner, reaching its maximum, and declining in the usual way, then it betokens a favourable issue.

A moderate amount of angina, tonsils and lymphatic glands,
not much swollen, temperature not exceeding 104, slight central symptoms, decline of rash & temperature together, such a train of symptoms, augur well for a good recovery.

If the fever runs an anomalous course, temperature reaching above 105, extreme frequency of the pulse, brain symptoms early developed, and continuing, violent delirium manifesting itself by shrieks, rash disappearing before usual time, temperature remaining high after the rash has gone, dark colour of the rash, crops, emaciation, lymphatic glands, much swollen, with cellular tissue infiltrated, haemorrhage into the skin, gangrenous sore throat, appearance of typhoid symptoms, anaemia with dropsy into cavities, such as into ventricles of the brain.
...pleurisy, or pneumonia supervening, all render the prognosis unfavourable.

The character of the preceding epidemic, should always be taken into account, in estimating the probable result of any case; as in our disease is the mortality more variable. As a general rule, whatever may be the prevailing type, the character of the first case which is seen will attach itself to the subsequent cases.

The extent of the eruption affords an criterion as to the result for cases in which the rash has covered the whole body have proved fatal.

Simple scarlet fever is much less likely to result fatally than the anginose, still less so than the malignant or irregular convulsions at the
beginning of the disease are not necessarily fatal but if they occur after the 2nd week they augur a bad result.

The condition of the urine in many cases enables one to give a prognosis, if normal in quantity, no blood, no albumen, or epithelial casts, then prognosis is favourable, but if urine is scanty with casts, blood, albumen, and epithelial casts, then prognosis must be guarded.

A continuance of the oedema with abundant urine of low specific gravity, augurs ill, and indicates serious lesion of the kidneys. The age of the individual, and constitution must be taken into account in giving a prognosis as it is a fact that the mortality is greater among adults than children.
Epidemics - Character

The purpose of the

...
Scarlet fever is generally fatal in pregnant and puerperal women.

Epidemics - their character. They vary much in character, some being attended with greater fatality than others and some are characterized by tendency to throat affection, others by kidney sequelae, others by disturbance of nervous system - so that often one set of complications predominates in the same epidemic.

The season of the year has no influence on the character of the epidemic.
Treatment

In preparation and preoperative measures:

- Preparation - Preoperative Measures

...and many more.

...amount of information from medical laboratories. Postoperative phases:

...and some more considerations.

The treatment is tailored after surgery.

...essential and indispensable. These are part of comprehensive preparation.
Treatment.

There is no disease affecting children in which the mortality is greater than in this, neither is there any in which greater diversity of opinion exists in the minds of medical men, as to the best methods of treating it; this disease above all others requires to be attentively watched in all its various stages, and the treatment to be accommodated to each stage; it is not to be combated by traditional specifics, which possibly might be beneficial in one stage of the disease, yet detrimental in another.

The different modes of treatment proposed and practised have been almost as numerous as the remedies; popular, and scientific, for rheumatism and gout. Each author has con—
tended for the correctness of his own view of the disease and each has maintained the superiority of his favourite plan for the cure of it, losing sight altogether in many instances of those complications, so frequently observed to occur during its progress, which complications, when they do occur, are in reality the chief source of danger attending the disease, and constitute the principal difficulty in treating it with success. The history of medicine from Hippocrates to the present time would bear me out in the assertions that physicians in all ages have been too much in the habit of trusting a favourite remeedy.

In a disease like this there can be no such thing as a specific remedy for it, for
The numerous phases which the disease is found to assume preclude all reasonable hope of being able to combat it successfully with any single remedy. It is only from a careful study of its general history, as well as from minute observation of the course of the symptoms in individual cases, that any suitable idea of a rational treatment can be founded. There is one idea which ought always to be kept in mind, and upon which the basis of every treatment should be conducted, viz. that whatever peculiarities may mark the epidemic character or vary the individual case, it is a disease which has a specific origin, a fixed course, and a certain termination.
Prophylaxis

The aetiology of rheumatoid arthritis is unknown and its treatment involves various approaches. Early treatment is crucial. Prednisolone is often recommended as an initial approach. Other medications, such as non-steroidal anti-inflammatory drugs (NSAIDs) and disease-modifying antirheumatic drugs (DMARDs), are also used.

Bleeding is a frequent complication. Haemorrhages can occur in the eyes, skin, and soft tissues. Treatment includes supportive care and specific interventions to control bleeding.

In conclusion, the management of rheumatoid arthritis requires a multidisciplinary approach and careful monitoring to prevent complications and improve quality of life.
Prophylaxis, it is most
essential that all necessary measures
and means to prevent the spread
of the disease should be adopted
at the very onset.
(a) In the first place the healthy
and sick should be separated as
efficiently as circumstances will
permit; the patient being placed
in a top room, or have a floor
for himself and attendant.
(b) All useless articles of furniture
such as carpet, bed hangings,
curtains, etc., should be removed
from the room.
(c) The room should be well
ventilated and kept cool, as
much fresh air as possible,
admitted, without the risk of
creating a draught.
(d) Disinfectants should be placed
in the room, and sprinkled on
the floor, which should be
kept scrupulously clean.

Every thing that passes from the patient such as sputum, vomit, urine, and faces, should be received into utensils containing disinfectant fluid, as chloride of lime, carbolic acid, or ordinary fluid.

All bed, and body linen should be placed in a disinfectant solution, before leaving the room, also all cups, &c. &c.

The patient should be kept scrupulously clean, and in bed until after desquamation, and not be allowed to mingle with members of family until after this, and until his skin has been well purified by baths, and disinfectants; all clothes worn during the illness should not be used again, until thoroughly disinfected.

The nurse should avoid coming in contact with one member,
of the family any more than is absolutely necessary.

(i) No visitors should be allowed.

(ii) The medical man should expose himself no more than necessary to the contagious atmosphere, should wash hands with disinfectant before leaving the room, and not go directly to other patients.

(iii) The sick room and its contents require thorough disinfecting and cleaning. After the recovery of the patient, all articles of clothing and bedding should be hung upon lines in the room. All openings from the room such as chimneys and windows should be closed. Some brimstone should be placed among hot embers suspended in a dish, over a pail of water. The door should then be closed.
to allow the fumes of sulphuric acid to remain in the room for 24 hours. When the windows, doors, and fireplaces should all be opened.

(2) All paper should be stripped off the wall, and burnt, ceilings should be whitewashed, the wood about the room should be washed with soap and water, and some disinfectant.

(3) The bed, mattresses, and other articles which cannot be well washed should be exposed to a high temperature (210-250°) for a few hours in a disinfecting chamber.

In order to make the treatment of this disease clear, I will adopt a similar plan to what I did in the de-
description of it; viz., twice give an account of what ought to be done in a case of Scleratina simplex and then describe the additional remedies for the complications.

In Scleratina simplex very little requires to be done; beyond confining the patient to bed in a well ventilated room, a low temperature, plenty of fresh but no draught; and keeping his bowels open by some mild aperient, giving him some cooling drink, as lemon water, barley water, or a drachm of chlorate of potash, dissolved in a pint of cold water, and allow them to sip at this. I have lately allowed the patient to drink freely of cold water, and I feel convinced that nephritis has been of less frequent occurrence, since I
ordered plenty of cold water, than before. I also, in the habit of prescribing it. When the craving for cold water is satisfied, he often falls into a sound sleep, and is not nearly so restless as when it is withheld.

It is important that he should be kept in bed until after desquamation.

The body should be sponged night and morning, with a weak tepid solution of carbolic acid, or of trisomylic acid, glycerine, and rose water, or vinegar and rose water, or boracic acid.

A diaphoretic mixture of gly ammonic acetate may be given more for sake of satisfying the parents, than of influencing the disease.

For slight angina, use a goulge of permanganate of potash.
means, besides those already mentioned, according to the complication and urgent symptoms present.

For instance, a high fever is generally the most frequent indication for interference. Some writers advocate cold baths, others quinine, aconite and digitalis, but I have found most benefit from a combination of aconite and veratrum viride — quinine not being well borne by children, difficult of administration; while cold baths in private practice are not so practicable as in an hospital.

Seditious sponging may always be employed with benefit when the skin is hot and dry, with a quick and strong pulse.

Collapse. When symptoms of
Irregularity of Inception

Nervous Symptoms
collapse are present from the toxic effect of the poison on the nervous system, stimulants are of great service as brandy, wine, ammonia, and eggnog.

Irregularities of eruption may call for interference either from fading too soon, or from bluneness in development and in such cases a hot bath and rubbing the body will mustard, combined with stimulant internally will be most efficacious.

Nervous symptoms

When brain and nervous symptoms are present from the fever caused by the specific poison, as delirium, ocularular twitching, trembling, symptoms of meningitis, then the greatest benefit is derived from the application of cold to the front head in the
Angina
form of ice and the administration internally of the antifebrile remedies mentioned before with the addition of some chloral hydrate, or bromide of potassium to relieve the brain excitement.

Angina. This manifests itself by tenderness about the angle of the jaw with some enlargement of the lymphatic glands; but so long as it remains moderate, no special treatment is required beyond a gangle of permanganate of potassium or chlorate of soda.

Warmth and moisture properly applied will have a tendency to reduce the swelling of the glands. The best plan is to apply flannel wrung out of hot water of several folds, in thickness covered with oil cloth, silk, or spongopulvinum wrung out of hot water, and
Ulceration

Cautions: Since the accompanying adverse effects cannot be predicted, adequate supervision of therapy is recommended to prevent or ensure control of the exacerbation.
applied to the neck, answers very well. Small pieces of ice to suck have been found beneficial in allaying the inflammation and congestion of the tonsils.

**Ulceration of throat**.

When ulceration of some part of the mucous membrane begins, either in the posterior nares or faucæ, it gives rise to a secretion of a viscid mucus, or a discharge of acrid fluid which affects the neighbouring glands through the lymphatics and associates the skin where it touches. These two conditions must be relieved as soon as possible, and the best means is by using a stimulating and antiseptic pledge as big ammonia, acetate glycérine and carbolic acid, or condys fluid.

I have also found the in-
Inflammation of Cellular Tissue and Islands
section of a weak warm solution of zinc sulphate through the nose most beneficial, it cleanses, & disinfects the posterior nares, and fauces, and at the same time stimulates a healthy action and discharge. Sometimes it's advisable to sop or swab out the throat with sulphate of zinc, at other times to apply nitrate of silver to the tonsils, or to searify and abstract blood locally, when suffocation is threatened.

Inflammation of cellular tissue and of Parotid & submaxillary glands.

This complication requires the application of heat and moisture in form of poultices or hot flannels. Painting with iodine is also recommended.

Good nourishing food essential; also quinine & deci, as a measure.
Ear complications should always receive prompt attention as they not infrequently result in the entire destruction of the organ. The external canal should be kept perfectly cleansed, by the injection of warm water, and if discharge is fetid a little chlorate of soda or carbolic acid should be added to the water.

When the inflammation spreads from the fauces through the Eustachian tube to the inner ear, symptoms of meningitis are generally developed, and require active treatment, blisters or leeches to the mastoid process. Quinine internally and sedatives, warm oil dropped into the ear, and heat applied over the ear, so as to hasten the formation of pus.
Group A + Diphtheria

Endocardial Inflammation

Rheumaticism

From the change in the hearth of the
membranous tissue to the annular leafs
Suppurative or inflammatory and severe attacks
are due to the inflammatory processes. At the
annular leafs, the change is often very gradual
and the formation of a process

Drug
Grippe and diptheria, as complications, require the adoption of the ordinary treatment for such diseases.

Endocardial inflammation requires absolute rest on the part of the patient, the application of cold, acce over the chest, or blisters with digitalis internally.

Rheumatism as a complication, requires tonic treatment with quinine, and iron-gover for 7-8 the dyaphoresis might be also tried.

Dropsical effusion as a complication.

Whenever anaemia shows itself, I have found most benefit from a hot air bath, or wet pack combined with a free evacuation of the bowels by means of sulphate of magnesia, while internally I give the salts of potash, acelab, nitrate
Complications of Pharyngitis

- Pharyngitis can lead to complications such as:
- Sore throat
- Fever
- Difficulty swallowing
- Cough
- Painful swallowing

Diagnosis of Pharyngitis:
- Clinical examination
- Lab tests (e.g., throat culture)

Treatment:
- Rest
- Fluids
- Pain relievers
- Antimicrobial therapy (if needed)

Prevention:
- Good hygiene
- Avoid close contact
- Vaccination (if applicable)
Ear complications should always receive prompt attention as they not infrequently result in the entire destruction of the organ. The external canals should be kept perfectly cleansed by the injection of warm water and if discharge is foetid a little chlorate of soda or carabolic acid should be added to the water.

When the inflammation spreads from the canals through the Eustachian tube to the inner ear, symptoms of meningitis are generally developed, and require active treatment, blisters or leeches to the mastoid process, quinine internally and sedatives, warm oil dropped into the ear, and heat applied over the ear, so as to hasten the formation of pus.
GROUP + DIPHTHERIA

Cardiac Inflammation

Rheumatism

THERAPY
Group and diptheria, as complications, require the adoption of the ordinary treatment for such diseases.

Endocardial inflammation requires absolute rest on the part of the patient, the application of cold, aice over the chest, or blisters with digitalis internally.

Rheumatism as a complication requires tonic treatment with quinine, and iron, gentle and slow.
The salicylate might be also tried.

Dropsical effusion as a complication.

When ery anaemia shows itself, I have found most benefit from a hot air bath, or wet pack combined with a free evacuation of the bowels by means of sulphate of magnesia, while internally I give the balls of potash, acetic, nitrate...
tartarate, biuret, and bromide of potash.

In obtrusive cases I have tried abstraction of blood locally from the kidneys.

Digitalis sometimes appears too good also iron in some form or other.

Sweet sarsaparilla all other stimulating diuretics should be avoided.

If uraemic convulsions are present chloroform, compression of the carotid, subcutaneous injection of morphia, Chloral Hydrate, & Bromide of Potassium might be tried.

The foregoing is a short and necessarily incomplete exposition of the subject. The numerous calls of a large country practice have prevented me devoting that time to the subject which I should otherwise have liked.

James Craig, M.B.C.M.

Eastwood, Nottingham. April 28th 1883.