

AN
INAUGURAL DISSERTATION

ON

Scarlatina

SUBMITTED TO THE

PRESIDENT, BOARD OF TRUSTEES, AND MEDICAL FACULTY

OF THE

University of Nashville,

FOR THE DEGREE OF

DOCTOR OF MEDICINE.

BY

Joseph J. Fry

OF

Tennessee

1856

W. T. BERRY & CO.,
BOOKSELLERS AND STATIONERS,
NASHVILLE, TENN.

Scarlatina,

This is a disease, cutaneous, with symptoms both simple, and complicated. It sometimes makes its advent in an exceedingly mild form, at others, it is characterized by most malignant features. This great difference may depend on a peculiar state of the atmosphere, in the section of country where it is prevailing, upon the season of the year, constitutional susceptibility, produced by various external causes, and upon an inherent nature of the disease itself in certain cases. Scarlatina is commonly accompanied by high febrile excitement, inflammation of the fauces and a scarlet rash, appearing usually, but not invariably on the second day, and ending in desquamation about the sixth or seventh day. It is most likely to be confounded with measles. In fact for a long time they were regarded as the same disease. Symplicius is said to have been the first who alluded to this

affection is a peculiar disease, various other authors seem to have noticed it, but not distinctly. Dr Withering of England first definitely and separately described this affection, and pointed out the difference between it and measles. Most authors mention three varieties of Scarlet fever, the Simple, the Anginose and the malignant. Sometimes they all may be blended, or only two of them and frequently it assumes but the one form. The various manifestations are all dependent, nevertheless, on the same exciting cause. Symptoms cause it Similia. The fever commences with a frequent pulse hot and dry skin, flushed face, coated tongue loss of appetite, great thirst and vomiting. It is sometimes attended with the pallid in many Symptoms of Languor, vomiting, rigors, pain in the head back and limbs, sometimes nausea and vomiting,

frequently restlessness, wakefulness, and delirium, stupor, coma and convulsions. The fever ranges through every grade, from the lowest possible to the most exalted state. Along with the febrile excitement, sometimes, after it, there is irritation and inflammation of the fauces. The tongue and whole interior of the mouth exhibiting the same appearance. The tongue has little red papillae upon its surface, projecting through the coat. The rash comes out usually upon the second day of the febrile excitement, sometimes however before any appearance of fever is developed. It is discovered first upon the neck, breast, and face, and gradually extends over the body and limbs, requiring about twenty four hours for its complete diffusion. Sometimes its course is different from the above, commencing

in minute red points and spreading
into large patches, which coalesce into
a continuous scarlet over the whole or a
large extent of surface. There is great
diversity in the eruption. Sometimes but
few patches, there again, it covers the
whole body. The colour is a bright
scarlet generally, though occasionally it
is dark. When you press upon the
skin, the colour disappears, but returns
very rapidly when the pressure is removed.
It is increased by exacerbations of the fever
or whatever produces excitement.

One marked symptom is that the scarlet
surface is smooth to the touch, there
being no perceptible elevation of the rash.
It occasionally has a rough feel like that
of goose skin, on certain parts of the
body, which is produced by enlargement
of the papillae. The skin is often scalded,
more frequently the face, hands and feet.

At the same time with the rash, there may be, about the neck, wrists and elbow joints, small milky vesicles; minute pimples and pustules are mingled with the rash in its decline.

The affection is attended with irritation and itching, which is very annoying to the patient. The fever continues throughout the whole course of the disease, with various degrees of violence. The pulse, as I have frequently observed, are very frequent, one hundred and twenty to a hundred and thirty in the minute and often more than then. It is very seldom strong. The temperature is from one hundred and five to a hundred & six degrees Fahrenheit and sometimes reaches a hundred and twelve. The bowels are generally constipated, but in the advanced stage there is diarrhoea occasionally, sometimes irritability of the stomach. The throat is often severely

affected, being the most formidable and dangerous part of the disease producing difficulty of deglutition and respiration almost amounting to suffocation. From the fifth to the ninth day, is about the period of the height of all the symptoms. If the case is favourable they then begin to decline, the pulse is less frequent fuller and stronger, the colour fades, the heat diminishes and the tongue becomes clean. Desquamation commences about this period, sometimes the cuticle separates in small scales, but often in large flakes. This process is usually completed in about two weeks, and the patient is comparatively well. The disease does not always terminate so favourably as this. From the commencement it is often dangerous, death occurring in the very incipency, from the great shock upon the system. During the progress

of the disease the patient often dies of Coma
or some other violent cerebral attack.
Some of the more delicate Structures are often
involved, as the serous membranes, by inflamma-
tion ending fatally. ^{By} The patient sinks
from debility and exhaustion, produced by the
malignant Character of the epidemic. ^{By} There
are frequently other local affections of a dangerous
nature, consequent upon the Original
disease, such as inflammation of the Abdominal
and Thoracic viscera and the Throat, from the
latter immense discharges of pus take place.
Often effusions take place into the various
cavities of the body giving rise to the
different kinds of Dropsy. ^{By} These are the
general Characters of this disease. I will
now proceed to speak of the different
forms of Scarlet fever. First *Scarletina*
Simplex. This is attended by no serious
implication of the Throat as in the other
forms, but simply the fever and rash.

The fauces are sometimes slightly red and inflamed, this being the whole extent, to which the throat is affected. This form is for the most part very mild, the patient frequently not being compelled to take his bed. Generally the first symptom is a slight scarlet rash appearing about the face and neck, with some febrile excitement. In occasional instances of this form it is much more severe, all the symptoms assuming a more alarming nature. There is usually but little danger unless the disease passes into one of the other forms or inflammation is set up in some important organ. *Scarlatina Anginosa*. This variety is accompanied with a serious implication of the throat. The jaws are stiff and there is pain and difficulty of deglutition at the inception of the disease. The eruption

comes out on the third instead of the second day, less abundantly and not so generally diffused, often confined to a positive ulcer post. There is great diversity in its manner of appearing, at times, it recedes and then returns again. The fever is higher than in the simple variety, the pulse being more frequent. There is greater tendency to stupor and delirium. The eyes are often red, but dry there is irritation of the nostrils, producing great annoyance, a dry cough and occasionally hemorrhage. The tonsils, uvula and palate are inflamed and swollen, with lymph exudations, in patches, over the fissure. These patches are of a dirty white or ash colour, sometimes covering the whole surface of the fauces and extending into the pharynx, and can usually be scraped off. They may be mistaken for ulcers, but after removing them, the

Surface remains smooth and without
abrasion, sometimes however they do cover
eroded points which are ulcerated or
gangrenous, Rarely they extend into the
larynx, producing symptoms resembling
pseudo-membranous croup. The external
aperts in the vicinity are swollen, more
especially about the parotid and submaxillary
glands. The parotids are often inflamed,
but more frequently the lymphatic
glands and the areolar tissue surrounding
them, not infrequently the whole external
respiratory and deglutatory passages become
inflamed and there is a constant secretion
of viscid mucus, which interferes seriously
with the functions of these parts, after a
further advance of these symptoms, an acid
fluid is discharged from the nostrils or
taken into the stomach, which excites
the adjacent parts of the former or produces
irritation of the latter and diarrhoea.

The discharges per anum become of the same acid nature, and produce the same irritable effect upon the lower end of the alimentary canal. The tongue throws off its coat early and becomes red and glossy. The excoriations upon the fauces separate spontaneously or are absorbed and the surface remains smooth and red. The disappearance of the eruption begins later than in the simple form, and the fever and sore throat continue, after the desquamation begins. Sometimes the disease assumes a typhous character, and it is more liable to prove fatal than before. Recovery is delayed and there is greater apprehension of organic derangement. But still authors say the majority of cases of this form recover. This variety may run into the malignant and be subject to all the dangers attendant upon it, sometimes overwhelming the patient before the throat has time

To become seriously implicated. *Scarlatina*
Maligna or *Agriouche Maligna*. The disease
has obtained these names, from the
rapidity with which the system is
prostrated and from the dangerous
manner in which the throat is affected
though the last is not essential to the
malignancy of the disease, for the patient
often expires before that part is affected.
The patient is attacked with "Coma, oppressive,
faintness and great anxiety; the pulse
being slender, feeble, frequent, and irregular;
the surface either cold, or hot in one
part and cold in another; the respiration
preternaturally slow, or hurried, and
irregular; the face pale or livid; and the
muscles almost powerless. Feeble attempts
may be made at reaction; febrile heat
may be partially developed, to disappear again,
and even some violet specks may appear
as if they were endeavoring to struggle

through the skin. But the resistance of the system soon ceases, and the patient dies upon the second or third day. From a less degree of the above symptoms, reaction may take place, and a low fever be established, with delirium, stupor, or mental inertness, a feeble circulation, a livid, purplish, or dark red eruption, petechiae or vesicles, passive hemorrhage, involuntary urine discharges, and unless a favorable change is effected by remedies, death closes the scene in a few days. I hope my honorable proposer will pardon this quotation, as it depicts, so much more clearly the symptoms of this very dangerous form of scarlet fever, than I could possibly do. In cases when the energies of the system are greater, or the violence of the cause is less, the symptoms are less violent and there is less immediate danger to be apprehended. There will still remain some signs of malignancy, such as

aggravating pains in the loins and the
extremities, a tendency to delirium or stupor
a weaker, though not less frequent pulse, a
later appearance of the eruption, while
it is more spaced and of a darker hue.
When the disease has continued a while,
there are symptoms of a typhous nature,
the pulse is more feeble and the surface
is not regularly heated, the eruption
disappears partially, or altogether, or changes
to a darker colour, the exudation upon
the fauces and on the inside of the mouth,
turns darker and has a dirty aspect.
Ulceration and gangrene take place, by
which considerable portions of the soft
parts are destroyed, while the healthy parts
have a fiery red appearance, the tongue
and teeth are covered with dark sordes,
blood escapes from the mucous surfaces,
a colligative diarrhoea sets in, and all
the external parts, where there is preperand

though. Collapse takes place finally, with
ghastly, sunken countenance, a cold clammy
sweat and an almost imperceptible
fluttering pulse, and involuntary discharges
in death about the close of the first week or
ten days. Sometimes the case is conducted
to a more favorable end the patient has
to contend with excruciating abscesses and
other drains which sometimes ~~the~~ destroy
the patient or he eventually recovers. This form
of the disease may attack the patient at the
out set, or may be consequent upon one, or
both of the other forms, the cause being the
same in each case, though more severe
in one than another. Cases sometimes occur,
during the prevalence of Scarletina, in
which the eruption is absent, though
there is soreness of the throat, with all the
other symptoms of the disease, running the
usual course. It is said that the disease has
been communicated from such cases, and

that itching and desquamation take place
at the regular time. Sequelae to Scrofula.
They are abscesses about the Parotid, and
Submaxillary glands, which frequently exhaust
the patient, or the discharge is so abundant
as to produce hectic, which often proves
fatal. Abscesses are formed in the ear and
obstinate discharges of matter kept up;
they also form within the cavity of the
Tympanum and that membrane is destroyed,
together with the bones of the ear, from this
healing is often much impaired. Sometimes
a bad form of Ozena results, from a Simular
affection of the pituitary membrane of the
nostrils. Abscesses of the joints and testes
are consequent upon this disease. Crusts
diarrhoeas frequently follow it which destroy the patient.
Gastro Enteritis, inflammation of the serous membranes
with pleuritis and peritonitis so frequently succeed this, in
which the prognosis is unfavorable. By far the most
frequent and dangerous sequelae, to this, is Dropsy.

Anatomical characters. The secret colour often entirely disappears, occasionally it changes to a darker hue, and sometimes there is no trace of it left, except a few dark spots. Sometimes the subcuticular tissue is injected. The redness not infrequently departs from the face, though is not always the case. The incrustations often remain, extending into the pharynx and oesophagus, but the pulmonary passages do not become involved so often as in Measles. The internal organs are, more or less congested. The elementary canal seems peculiarly liable to be attacked, and the presence of lesion is often visible after death. In many cases, when the patient is taken off early, there are no signs of morbid action having taken place. The blood is subject to great diversity in its fluidity and solid constituents, an increase of red corpuscles seems

To be the greatest change. Cause, It is generally supposed to be specific, and of a contagious nature, but is no doubt often produced by epidemic influence, mostly communicated through the atmosphere, and is often confined to a small district of country, in fact it scarcely ever extends far, during one epidemic. It is said to have been communicated by inoculation, but that is a disputed point. There is great diversity as to the nature of the epidemic influence, sometimes giving it a strictly inflammatory type, when bleeding and other antiphlogistic measures may be used, again giving it an asthenic or typhous grade. In most epidemics, the bowels are involved, in some the fauces and in others the respiratory passages &c. During one epidemic nearly all the patients recover, in another the disease is distressingly fatal, as has been the case when I reside. The young are more

liable to be attacked than the middle aged or the old, the latter seeming to become less susceptible of its influence. The adult does not always escape however, and probably females not so often as males. It may prevail at any time of the year, authors differ very much upon this point. It generally exerts its influence upon an individual in the first attack, very seldom recurring more than once in the same person.

Diagnosis. This affection is more liable to be mistaken for measles than any other disease. The most undoubted symptoms are extraordinary frequency of the pulse and redness of the face. Before the eruption comes out, it might easily be taken for any febrile complaint. There are no catarrhal symptoms as in measles, the rash makes its appearance on the second day instead of the fourth day as it does in Measles. It is distinguished also by the benign symptoms

and the scarlet rash, which is more uniformly diffused over the surface and by the eruption being more smooth than in Measles. Both diseases have occurred in one individual at the same time. Prognosis. In forming our opinion as the result, a great deal depends upon the character of the prevailing epidemic. During some there is little fatality and of course little danger to be apprehended. Sometimes patients die without very visible disorganization or any moribund symptoms, some great seasonal distress or disorder. Then again others who have lingered long under a most malignant attack, with its sequelae finally recover, when there was very little hope for them. Some persons appear peculiarly susceptible by its influence, and also some entire families more so than others. It is more dangerous in pregnancy and about the periods of child birth than at any other time or in any other women.

Treatment. The bowels must be opened with
some gentle purgative, probably saline
cathartics are the best. If there be high febrile
excitement, with full or strong pulse,
with any tendency to inflammation, pur-
gatives local of Colomet might be given at
night, followed by saline cathartics next
morning. Colomet must be given with great
caution, especially when the epidemic has an
asthenic form. If there is any diarrhoea
Do Wood recommends Castor Oil and Laudanum
combined, which seems to act kindly on the
irritated mucous membrane of the bowels.
Bleeding may be resorted to, in some cases,
while its use would be devastating in the
majority. Frequently local bloodletting could be
practiced, when general bleeding could not,
on account of the great danger of prostration.
When there is imminent danger of inflammation
of any of the important organs, unless the
patient is in an asthenic state, we must bleed

in the upright posture. After the fever is fully developed, refrigerant drinks set kindly. The sweetest mixture is an excellent draught of this class, or the effervescent draught when there is irritation of the stomach or vomiting. If there is much pain, and determination to the head, cold applications may be applied, provided they are agreeable, and do not produce chilliness. If these can not be used, tepid lotions may be substituted. Dr Jackson advises ice to be taken internally, which must be used constantly.

Local remedies are very useful in this affection when there is inflammation of the fauces and throat, with lymph exudations, or ulceration, gurgles, made of some of the mineral acids diluted, or of sulphate of zinc, nitrate of silver or common salt are excellent. Red pepper seems to act more favorably in this, than any other local application, in the form of infusion or tincture, frequently applied, both internally and externally. Sometimes the powder may be made into a paste with water or spirits, and poured

over the parts. In the gangrenous stage, various
antiseptics, as the chloride of Soda, Creosote,
pyroligneous acid made into gorges with mustard
are highly beneficial. Emollient poultices to the
swollen parts before and after suppuration
must ~~be~~ used. ^{By} The rooms should be well ventilated
and of a moderate temperature. Light diet should
be enjoined. If the disease takes a downward ^{Tendency}, the
patient has to be supported by stimulants, as
wine whey bay tea, Sulphate of Quinine in
conjunction with some of the mineral acids and
the tincture of peruvian bark. Prophylactics.
Bella donna is considered one of the best, given
daily in minute doses dissolved in water. Others
are mentioned, but it is much doubted
whether any medicine yet discovered has this
property. Joseph Galbot Esq