

AN
INAUGURAL DISSERTATION

ON

In relation to the early history
of Smallpox or Variola
defined by *known*. The first part
is written upon the subject

SUBMITTED TO THE

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BY

cannot be
of the Jos. W. McCall
The most

OF

insert
subject Tennessee
frequent

introduction
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Smallpox or Variola

In relation to the early history of variola, there is but little definitely known. The first graphic writer upon the subject, was Razis, an Arabian Physician, in the year 910.

It is an idiopathic exanthematous fever; depending upon a peculiar contagious principle, or virus, which can not be manufactured outside of the human body. It is one of the most contagious and destructive diseases, to which the human family is subject: but fortunately, it is far less frequent now, than it was before the introduction of, that invaluable

Prophylactic remedy, Vaccination
by the immortal Jenner, in the
year 1796.

Smallpox virus may get into the system, by actual contact, of the matter of a pustule to an abraded surface; or mucous membrane; or by an effluvia emanating from a patient labouring under the disease, which being inhaled with the atmosphere, is absorbed into the circulation. The poison lies in the system, in a state of dormancy, for a certain period. This is called the latent period, or period of incubation, which lasts from nine to fourteen days. It generally shows itself, about fourteen days after the reception of the poison into the system. The

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Premunitory symptoms of the eruption, are not very characteristic. The patient is generally attacked, as in other forms of fever, with a chill, followed by an increase of heat in the skin, flushed face, loss of appetite. (Anorexia,) Thirst, (dyspepsia,) and great irritability of the stomach, attended with nausea and vomiting; (which are some times very obstinate and difficult to relieve;) unpleasant taste in the mouth. The tongue, in some cases, is covered with a whitish fur, in others, it is but little changed from its normal appearance. The patient has pain in the head, and a very severe pain in the loins. The primary, or breeding

fever continues two, or three days, with more or less intensity. It is more frequently of the remittent character.

The remissions coming on in the mornings, the exacerbations in the evening. In plethoric persons, the fever is very apt to be of a sthenic character, and is often attended with delirium, more frequently at night.

When the eruption makes its appearance, which is upon the second or third day, the fever subsides, and all the symptoms are ameliorated. The severe pain in the loins, the pain in the head, and the nausea and vomiting have disappeared. The patient feels tolerably well; and were it not for the eruption upon the

Skin, would apparently be con-
 =valuscent. The disease now speaks
 for itself. Innumerable small red
 specks may now be seen making
 their appearance, first on the fore-
 =head, then the chin, and successively
 on the neck, chest, abdomen, up-
 =per and lower extremities. In one
 or two days, from the appearance of
 the eruption on the forehead, it will
 have extended over the entire body.

Dr Bowling says, that the eruption
 comes out in crescentic, or semi-
 =lunar patches. He gives this as an
 infallible diagnostic sign of the
 variol. The pimples, which are
 at first small, soon enlarge, and
 become very perceptible to the touch.

A little clear lymph, may now be seen at the apex of those, that made their appearance first. They are now vesicles. Fluid is secreted into them, and the vesicles become depressed (umbelicated) about the fourth day of the eruption. This depressed condition of the vesicles, is owing to an adhesion of the central portion of the cuticle to the true skin beneath, while the epidermis immediately surrounding this depression, is distended with the secretions from the inflamed papillae giving the pox its characteristic appearance, (umbelication). The skin surrounding the pox is swollen, and much inflamed, and hard to the touch.

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They have red areola. Fluid is seen=
-ed in greater abundance, and is being
transformed into pus. It now loses
its umbelication. The cuticle that
was adhered by its center is now
detached. The vesicle is changed
to a pustule, and soon becomes pro=
-minent, and distended with pus.

The pock is matured from the sixth
to the eight days of the eruption.
Those upon the trunk, and extremities,
are a day or two later in maturation.

The patient is very frequently annoy=
-ed in the progress of the disease, by
unpleasant sensations in the skin
as a sense of heat and tightness.
The face and scalp, are much swollen
and sore. The mucous membranes

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suffer more or less in this dis-
-ease: but the eruption does not run
through the same regular ^{course} upon
these surfaces, that it does upon
the cutaneous surfaces. It shows
itself in the form of little white
patches, here and there; while the
intermediate mucous membrane is
swollen, and red. The mucous mem-
-branes more immediately connected with
the outlets; as that of the mouth,
fauces, larynx, pharynx, throat &c.,
suffer the more. In consequence
of an inflamed condition of the
mucous surface of the mouth, there
is great flow of saliva. (Ptyalism.)

From the seventh, to the ninth day
of the eruption, another febrile action

is set up in the system; which is sometimes preceded by a chill. This fever is symptomatic, or reactionary; and is in proportion to the number of pustules. When they are numerous the fever is apt to run high, and vice versa. The secondary fever subsides pari passu, with the desiccation of the pustules. About the middle of the second week, the pustules on the face begin to dry up, and form brownish, or mahogany coloured scabs.

During the period of desiccation, the patient is much annoyed by the itching, (pruritus,) which attends this stage. The soreness, and tumefaction of the face, scalp, mouth,

Throat &c; subside, as desiccation goes on. The tongue assumes a more healthy appearance, the appetite is improved. The scabs are formed, and begin to fall off by the end of the second week, and by the end of the third, in favourable case, complete desquamation has taken place, and the patient is restored to health. The pustules upon the extremities very often dry up without forming a regular scab. Those upon the mucous membranes are vesicles short of scabbing. They some times have superficial ulcers upon the mucous surface.

What is written upon the preceding pages, is only a mere outline

of the most prominent features, and course of an uncomplicated case of distinct variola. There is another variety of the disease; viz, the confluent variety. It is called confluent because the pustules are so thick, that the areola run into each other. This variety of variola is much more grave in its symptoms, than the preceding variety. It is precisely the same disease, differing only in degree of violence; probably owing to the quantity of poison which is absorbed into the system, or some peculiar idiosyncrasy of constitution. Their identity is proven, by the fact, that the virus of one will produce the other, and vice versa,

A case of the distinct variety may be converted into the confluent, by the improper use of stimulating medicines. The primary fever, in confluent variola, is preceded by distinct rigors; and has a more sthenic character than the distinct. The pain in the head and loins is very severe. The nausea and vomiting, are distressing and persistent, and often attended with soreness in the epigastric region. There is disturbance of the intellectual organs, delirium and convulsions, are not unfrequent in children, and the more violent cases in adults; and in short all the symptoms, are more aggravated. The eruption is earlier in its appearance, and is not

attended with the same subsidence of fever, as the distinct. The fever remits, but does not entirely disappear. It is not confluent in an equal degree over the whole body. The greatest confluence is upon the face, while upon the body and extremities, it is distinct, or confluent only to a limited extent. It is not so regular in its stages as the distinct variety. The eruption may be thick on some parts of the body, while upon others it is scattering (isolated). It is less prominent, and the matter is more ichorous, than then in the distinct. The face and scalp are very much swollen and sore. The mucous membrane of the mouth, fauces,

Throat &c suffer greatly. These parts
are some times so much swollen,
and some, that it is with great diffi-
-culty, that the patient is enabled to
swallow; or or articulate distinctly;
and not unfrequently in severe
cases, the air passages become oblit-
-erated by the secretion of mucus,
and the tumefaction of their lining mem-
and the case terminates in asph-
-yria. The primary fever, which only
remits on the appearance of the
eruption, continues in this remittent
form, and is apparently blended with
the secondary fever, which shows
itself about the ninth day. This,
from the great exhaustion of the
patients, may assume a low typhoid

Character. There is great danger from intercurrent ^{inflammatory} diseases; as Pneumonia, Pleuritis, inflammation of the brain, &c; through out the disease; and especially is this the case in the declining stage.

Diagnosis — It is a very difficult matter to distinguish a case of variola from other forms of fever, prior to the coming forth of the eruption. If there be any thing peculiar in the symptoms; it is the excruciating pain in the loins, and the great irritability of the stomach, which can not be traced to any perceivable source. After the eruption shows itself, we will have but little trouble in diagnosing it from other forms of exanthematous.

fevers. It differs from measles, and scarlatina, in being more prominent, and in running through its various stages of pimples, vesicles, and pustules. The Prof of Theory and Practice of Medicine, gives, as a pathognomonic sign of variola, the peculiar arrangement of the eruption, in crescentic or lunular patches

The prognosis is generally favourable in distinct variola, under proper treatment; but the same can not be said of the confluent variety. It is always dangerous. When there is great lumbar pain, persistence of nausea and vomiting, after the appearance of the eruption; and when the pock is numerous, and does

not run through a regular course is flat, or imperfectly formed; or filled with a bloody watery fluid, our prognosis is unfavourable.

But on the contrary, when the lumbar pain is slight, the nausea and vomiting inconsiderable, pustules few in number, and isolated, run a regular course; and become filled with laudable pus (yellow cream colour) in due time; we may predict a more favourable termination. It is more fatal in children. Children, in pregnant women, in old and debilitated persons, and in plethoric individuals, than in those of an opposite condition of body.

Treatment We have no therapeutic means, by which, we can shorten, or arrest the progress of variola. Therefore, our treatment must necessarily be upon the expectant plan. Though, if we are sure that we have a case of variola to treat, we may, to some extent, lessen the number of pustules by the use of cooling medicines &c.

The patient's room should be kept comfortably cool, and well ventilated. His diet should be light and unstimulating. If the febrile action be moderate, it will be sufficient to move the bowels freely, with a saline cathartic; as the Sulph-Magnesia, or Sulph-Magnesia and infusion of enna.

After the bowels have been attended to, some refrigerent drinks should be administered. From 20 to 50 grs, of the neutral mixture, (Citrate of Potassa,) dissolved in cold water, or the effervescing draught, should be given every two, four, or six hours, as the nature of the case requires. But if the patient be of a plethoric habit of body, and symptoms of inflammation and congestion be present, our remedies should be more active. In such cases the abstraction of blood, from the general circulation, would be advisable, though the lancet should be used with great caution. Local depletion and counter irritants over the inflamed

Organs; as cups cataplasms &c. If the brain be affected the hair should be removed, the head elevated; and cold application made to the scalp, and irritants to the feet. If the inflammation does not succumb to the saline purgatives, depletion &c, it would be advisable to administer a mild mercurial purgative.

Ry Proto Chloride Hg, 10 gr
 Pulv Doveri, 5 "

To be followed in 6 hours by Epsom salts; (Gulf Magnesia;) or the compound cathartic pill may be given with great benefit, as it acts upon the whole alimentary mucous membrane, and thereby secures both a depletory, and revulsine effect.

For the gastric irritability, which is such a distressing symptom in the earlier stage of the disease, the effervescent draught with a small portion of morphia Sulphate, should be administered, and counter irritants applied over the stomach.

Might not small dose of Opote, allay the irritability of the stomach. in variola? as I have often seen it do in excessive nau-
=sea, and vomiting in measles

"After the eruption is out little treatment will be required". The bow-
=els should be kept in a soluble state. All unpleasant symptoms should be palliated, and the patient

Kept as comfortable as possible,
through out the disease.

When the secondary fever comes on,
the antiphlogistic remedies should
be resumed, and administered accor-
-ding to the degree of excitement.

Particular attention should be paid
to intercurrent inflammations, which
are so apt to supervene in the
latter stage of variola, and should
they occur, will have to be combated
principally by local remedies; as
cupping, fomentation &c. Give an-
-odynes to allay irritation; and if
deemed advisable the anodyne may
be combined with calomel, or blue
mass, which may be carried to slight
Styalism.

If the patient becomes much ex-
-hausted in the latter stage of the
disease, the system must be suppor-
-ted by a nutritious diet, Stimulants,
Tonics, &c.

Any nervous symptoms, as pain,
fascitation, &c. should be allayed by
an opiate at night if there be
no determination of blood to the
brain.

J. W. McCall

January 6th 1857