On The Exanthemata and Their Results

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In the wide range of medical science there are not any diseases more full of interest to the Physician than those we have chosen as the subject of our essay. Whether we consider them as diseases that devastate the earth and as epidemics sweeping away its inhabitants by thousands, or as maladies which may render miserable the future existence of those they have not destroyed, they appear equally important, and as such they have engaged the deepest thought of many great and distinguished men. But one consideration would perhaps tend to place their importance in even a higher position, that all the human race generally affected with at least three out of the five exanthematicous diseases during some period, usually the early part of their lives. The immunity from future attacks conferred on individuals by the single occurrence of these diseases is also a
which, while the pulse seems to go on diminishing in strength as it increases in rapidity; the functions of the body are of course much deranged at the same time. We by no means intend to state that this marked febrile condition is always observed, for sometimes there is scarcely any fever observable; but whenever well marked febrile symptoms exist, they are always of that peculiarly low character.

Various opinions have been given by physicians as to the number of diseases that ought to be considered erythematous. In this matter we shall adopt the division of Professor Alix, the opinion of such a high authority being sufficient guarantee for its correctness.

Small Pox, Measles, Scarletina, Erysipelas and the Plague are those comprehended in the Professor's classification. The Erysipelas seems rather
exceptional, according to the usual view of exanthemata; so far as its occurrence does not seem to confer the same immunity from future attacks as in the others, but on the contrary it is more liable to recur in proportion nearly to the frequency with which it has already attacked the patient.

Plague, again, is a disease about which so little is known except in regard to its fearful mortality that not much will be said in regard to it except what may tend to makeplain of possible the nature of the disease.

Smallpox, Measles, and Scarletina, then, are the three diseases that are best known under the name of the exanthemata; and of these three, the latter is somewhat interesting beyond the others on one or two respects, which will be mentioned when we treat of it by itself.
Small pox is a particular disease which is familiar by name to nearly all, and one of its sequela sufficient by well known as the diseasement called pox-fitting. Most probably every contagious disease requires a considerable space of time to become sufficient by strong, in its effects on the system to cause the febrile state; it is supposed here that the poison is produced by a species of fermentation. In small pox the time necessary for developing the disease is generally from a week to twelve days or more, although sometimes it occurs in a much shorter period than this. The effect of the poison on the blood then becomes evident in from seven to twelve days after its introduction into the body, by the development of the eruptive fever. That period taken for the development of the poisonous matter is called the period
of incubation. In the course of the third day after the eruptive fever has made its appearance an eruption of small red pimples (papulae) takes place, generally coming out first on the face and neck afterwards on the trunk and extremities. The period at which the eruption becomes is not always the same, but from thirty six to sixty hours may be stated as the usual time, while in some rare cases it appears to be postponed in a very remarkable manner. According to the constitution of the patient and the severity of the attack the eruptive fever may be well or ill marked and so in some instances no doubt the eruption has been considered late in its occurrence from their being a more than usual depressed state of the system before the actual occurrence of the eruptive fever. After the papules have been out
about a couple of days they are seen to contain a little fluid of a clear appearance and are depressed on the apex. This depression is not very great, but the head of an ordinary pin might occupy it easily. The vesicle becomes more and more perfect until about the fifth day of its own existence when its vesicular structure seems to be perfectly established. This is properly the eighth of the disease. The fluid contained within the vesicle gradually becomes opaque in colour and yellowish. The fluid has now become perfectly purulent, and the vesicle has passed into a pustule. This change is generally completed by the eighth day of the eruption, which is in that case nearly the eleventh of the disease. After this the pustules blister on the apex, burst, and a scab forms which falls off when ready to separate by the pressure of the subjacent structure, and with the decedence of the scabs.
The disease is understood to terminate. The changes here described are understood to refer to the course of the disease as observed on the face, and as the changes which happen are the same all over the body, these observations apply equally to all parts where the eruption may appear. As might be expected according to the constitution of the patient and the severity of the attack, the eruption also varies remarkably: sometimes being scanty, at other times so profuse that the whole surface of the face appears covered with it.

When the pustules are quite separate from one another, we still refer to the face as an index: the disease is said to assume the discrete form: when the pustules touch one another by their edges merely, it is called coherent; but when from great number they are so thickly studded over the surface as to run into one another and form
almost a continuous surface, then it is said to be confluent, and in this form constitutes one of the most deadly diseases with which physicians have to deal.
It is a fact well known to practical men, that when any great surface of the body is inflamed the effect upon the system is especially depressing; commonly death is referred to the inability of the system to remove the poisons, although indeed the shock produced to the system, by such an immense large inflamed surface is sufficient to account for his solution.
We have remarked that on the second day the papules begins to assume some character of a vesicle and that a depression or little pit is formed on its apex. This constitutes one of the most decided marks of small-pox, and is considered diagnostic in a great measure of the disease, although indeed it can scarcely be
mistaken for anything else. The skin is a highly vascular membrane covered with many layers of epithelium forming a cuticle; also it is furnished with numerous glands called sudoriferous and sebaceous which secrete sweat. But in any mucous membrane (and the skin has that structure) the part of the membrane which by its evolution forms the gland, has always the most close distribution of capillary vessels near to it; moreover when inflammation seizes any structure it may generally be expected to attack that part which is best supplied with vessels. Consequently the papules that first appear in small pox are found occupying the seat of these cutaneous glands; and as the lymph is forced out between the cuticular covering and the true skin, the epithelium which lines the glandular duct, and which is continuous with the cuticular covering of the true skin, breaks down the vesicle in the centre
discriminating care on the part of the Physician, he holds in his hands the balance of life, and by stimulating judiciously keeps up the strength which if allowed to sink will soon destroy the patient, while an excess of stimulus is most carefully avoided as tending to hurry the disease faster on to its termination.

The powers of nature are of course the means by which health is restored, and it is only by following what appears to us to be her dictates, that we may succeed in improving the chance of life in those who entrust its care to our control.

When the signs of a disordered state of the blood occur, by the oxidation of its colouring matter into the pastakes, no hope of recovery remains and in endeavoring to apply remedies it is certainly with no hopes of success. Such cases however, are fortunately very rare.

The Small Pox Pastake itself as we have already remarked is covered only by epithelium, and if carefully treated,
in most instances, will not pass further into a state of ulceration, when the pustule is burst; but if from violence applied to the pustule by the patient himself, or from any other cause violence is sustained, then the true steam may be cut through by ulceration, and a depression remains through the remainder of life. The steam like other highly developed organs, is not capable of being reproduced.

**Rubella or Measles** may be considered as a peculiar disease of considerable importance; that importance however being due in a greater degree to the subsequent results or sequelae than to the violence of the disease itself, when present in the system. In this as in *Smallpox* the internal affections accompanying the surface disease are of some consequence. Yet the *Bouchee* which is so well marked in Rubella, is not often seen in cases of *Smallpox*. The eruption generally appears on the
from the day of the eruption from which again appears in from one to fourteen days days after the contagion, generally the symptoms of erysipelas appear previous to the eruption and bronchitis may exist throughout its course. Although the fourth day has been named as that most likely for the appearance of the eruption, still varieties occur now and then occur: the variation from the common course being generally one of delay rather than early occurrence. Its appearance is first on the face and neck afterwards on the rest of the body, and after remaining out two days, it begins to fade from the general surface of the body. Then the cuticle desquamates. The colour of the eruption is nearly that of a baso berry and wanting the vivid colour so well marked in scarlatine, at first the eruption presents the appearance of small rounded spots of a perfectly circular form.
but presently the little spots accumu-
late into patches of a rose color to knee shoe shape. This peculiar
arrangement of the papules together
with the Bronchitic attack will be sufficient of themselves to indicate
the true nature of the disease.

Although Rubecola generally attacks
the patient in the way we have men-
tioned, yet occasionally the cutane
is not present and by its absence
appears to leave the system impro-
tected from future attacks.

In Rubecola maja there appears to
be the same discolor state of the blood
as in París la Mejía.

Scarlatina, occur earlier after con-
tamination than either of the two former.
The eruption which is close usually,
and like a scarlet efflorescence appears
first in the face and neck
and in the day more is diffused
over the surface of the body; its first
appearance being on the second day of the eruptive fever. On the fifth or sixth day the eruption begins to fade and in about two days more it disappears and is followed by exfoliation of the cuticle. Now according to the severity of the attendant fever, the disease may be divided into Scarletina, Anginosæ and Maligra. In the first of these the affection of the throat is trivial, in the second it is severe, while in the third variety there is a disposition to coughing and depression of the most extreme kind. The appearance about Scarletina is very characteristic indeed, and that is the strawberry appearance of the tongue, which is covered with a whitish film along the centre and marked distinctly with elevated and elongated papillæ of a bright red colour raised through the surrounding white coating. The eruption is also rather more bright in appearance.
than that of Measles and is bright in general about the flexures of the joints and also on the hands and fingers. Although the eruption is scarcely elevated to the touch as in Measles, the general tumidity is considerably greater than in the latter. The eruption may also fade and return again.

The true Tonsillitis is certainly one of the most dangerous complications met with in the Exanthemata, as already mentioned it scarcely shows itself in the simple variety, but in the Agrippina its characters are well marked. The tonsils, moreover, are tumid of a bright rose color and studded over with patches of lymph which on their removal exhibit ulcerations or slough underneath.

The malignant variety however presents a purplish or livid appearance with ashen gray patches which are sloughs. These patches may soon become
extensive, and by renewing the poison of the disease and allowing facilities for its secondary absorption may destroy the patient with great rapidity, the Plague could scarcely be more rapidly fatal than Scurulina is sometimes observed to be when of this Malignant Kind.

Erysipelas. The eruption has not any very regular period for its occurrence, and generally the time that intervenes between the commencement of the eruptive fever and the appearance of the eruption is certainly not by any means long: shorter perhaps than in any other Typhus hemorrhagic disease. An Erysipelas'ous eruption occasionally complicates the appearances presented by that of Small Pox.

The low state of system observed in this Malady sufficiently indicates the great necessity for every precaution in the way of sustaining the Patients.
Strength.

Plague. As has been already stated, there is no disease that surpasses this in mortality although some, as St. Catherine's disease, probably may destroy with nearly equal rapidity. The occurrence of the carbuncles and the low fever often death on them sufficiently indicate the extreme danger to which the patient is subjected. Then have not been hardly enough to attempt the investigation of Plague and therefore the most of what has been written on the subject is mere matter of conjecture than anything else. It is probable that as T. Williams observes, the condition called necromelia is established and consequently that the body is destroyed with peculiar rapidity. The form of Typhoid called by some the conjugate fever is thought to exist in this disease.

Having thus very shortly considered the principal characteristics that
distinguish the three exanthematos diseases of greatest importance, we will now offer a few remarks on some important circumstances connected with them.

Keeping in remembrance the Typhoid nature of the fever that precedes and attends them during their course, bloodletting must be carefully avoided in all of them, unless it be with a view of treating local complications.

The existence of the disease appears to be quite a sufficient shock for the system to bear, without any further diminution of strength by bloodletting. Even the local detracting of blood by leeches may produce injurious results, for local as well as general bloodletting is ill borne, and the leech bites are in consequence not unlikely to sluggish, as is sometimes seen in cases of Scarlatina.

Fortunately at the present time the proper way of treating these affections...
It seems to be well understood, and the
no. not even met with Sulfur as a
means of making the eruption appear.
The danger of repelling the eruption is of course extreme, and although
in bad cases of Scarlatina the rash
after coming out may disappear
and afterwards reappear, this is not
equal in danger to the excision of
the eruption by artificial means.
As the exanthema are only to be
considered as varieties of idiopathic
fever, and as in all idiopathic fever
with the exception of Intermittent
and Remittent certain rapidly
destructive sequelae are liable to take
place, we consequently observe that
during the period of convalescence,
a set of destructive secondary disease
not infrequently occur in them.
Almost all these sequelae are of
such a kind as may be referred
to the absorption of pus into the
blood. We may meet with suppuration.
of internal organs and deposition of pus into the joints of all of them. The nature of these inflammations in such cases appear always to be different. Still there cannot be a doubt that certain sequelæ are more often observed after small pox, than after scarlatina, and certain others are more distinctly marked after measles. It may be stated generally that after small pox we are more liable to meet with inflammation of the cellular tissue, rapidly proceeding to suppuration, suppuration of the orbit, the same in the joints and also in the pleura; not unfrequently also suppuration is met with in the lungs, kidneys and liver. The scrophulous diathesis is very apt to be some developed at this period so that Phthisis, Tubæ Mastitices and enlargement in the cervical glands are likely to occur.

Still although the scrophulous constituti...
is apt to become developed along with its results, it must not be imagined that Phthisis is so apt to follow Smallpox as Measles: The symptoms in the latter, indeed, do not assume any great intensity, but only, unless the patient be kept comfortably warm during the attack, and carefully watched after it, the Pneumonia that accompanies the eruption will quietly result in tuberculous deposit in the lungs with its disastrous consequences. The patient sometimes appears to have recovered so completely that no danger is apprehended and consequently no care taken, and it is in these cases of all others in which the most destructive results are manifested. After the Scarletina Simplex indeed, the worst results are likely to follow want of care on the part of the attendants. The body is exposed to the atmosphere during the stage of desquamation, congestion may take place
in internal organs as a result of this, and acute dropsy may follow. The period at which dropsy generally takes place after Scarlet Fever is very variable, but certainly the danger is not over within a month. Suppuration also may take place in the cervical glands especially if they have been interfered with, and long after perfect recovery has taken place, by otitis or some other as serious affection. However there is no doubt that the Kidney's affection is the most frequent Sequela. And to this we are to attribute the convulsions and sudden death occurring after Scarlet Fever, the blood having been retained in the blood and acted on this rapid and destructive manner on the patient. When inflammatory symptoms appear during the period of convalescence, bleeding followed by diuretics will frequently put the patient out of danger for the time although without
Doubt unless carefully managed afterwards, Chronic Bright's Disease may be the result. But when there is a predisposition to disease already existing in the system, very frequently all our care is of no avail. The patient's strength appears to sink even while we are attempting to support it by every means in our power. Sometimes indeed it appears highly likely that remedies do harm instead of good by irritating the system and thereby exhausting the little strength that still remains. In such instances the balance of life is easily turned to the patient's destruction and therefore the best plan is to leave the patient entirely to nature; never to allow him to assume the erect position even after he feels quite convalescent, for we know of several cases in which by this procedure the patient's life was
sacrifice
Such then are the Euphthimata;
Destructive in their attack, but
very often as destructive in their results.
Diseases they are indeed from which
Medical men may derive much
information in respect to Mortal
poisons and the effects produced
by them; but often also much odium
from an error in diagnosis at the
first. Patients and their friends
sometimes most unreasonably will
expect their medical Attendant to
say decidedly what is the matter,
and if there be much danger, the
Habitacy of his position is often
increased by the self assurance of
some Nurse or family friend.
Such nurses and meddlesome persons
ought to be treated with the most
entire indifference, and their presence
in the sick room by no means been
acknowledged.
This may seem harsh treatment
for persons who perhaps really take an interest in the patient's welfare! 

While it is absolutely necessary that strong confidence should be placed in the Medical Man, and that his judgment should be final. 

We make these concluding remarks from a strong conviction that hundreds of patients die from the attention to the orders of their Medical Man, combined with too strong confidence in the Family Friend.

Lewis Johnston

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