

AN

INAUGURAL DISSERTATION

ON

The Diagnosis and Treatment of Infantile Diseases

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Diagnosis And Treatment Of Infantile Diseases.

Within the present age the Science of medicine has been irradiated with the most brilliant lights, men whose names have imparted dignity, and authority to the profession, and whose minds have united a flame of progressive improvement which can only be extinguished with the extinguishment of literature.

Such, indeed, has been the luxuriant growth of Medical Science, from the multitude of facts which have been collected, and the numberless theories advanced by its assiduous Cultivators, as to demand that just principles should be deduced therefrom, lest we should be misled by the glare of novelty, or seduced by the erring lights of false experience.

When we read of the numberless articles which have been obtruded upon the medical world as *Novae*, and effectus Remedies in many diseases; -

When we read of the many eulogies passed up
on inert medicines, and learn the fallacy connec-
ted with their reputed efficacy we are induced
to select with great caution our therapeutic
agents. Without a proper knowledge of thera-
peutics, and the diagnostic signs of disease the phy-
sician is like the mariner who launches his bark
uppon the ocean without chart or compass; he
is like the man who attempts the construction of
an edifice without a knowledge of the rules
of architecture, or like one who essays to solve
an algebraical problem when he has omitted
some of the elements of the calculation.

The Science of medicine is founded upon a
knowledge of the subject of disease, and the agents
best calculated to act on that subject.

Practical Skill is based upon a correct

appreciation of the kind, and degree of Variation from health, and the appropriateness of Remedies to produce a salutary Change in such aberrations.

If a physician has a correct Knowledge of Pathological Anatomy, he will generally have but little difficulty in understanding, and appreciating any variation in the aspect of disease.

We know a man by his fixed personal features. So, we recognize disease by certain Characteristics which it possesses, and having come to a correct Conclusion as respects its nature, we then build our indications of cure upon the Knowledge thus acquired.

It is often difficult, and indeed Sometimes almost impossible to ascertain how the functions deviate from the healthy, and natural; a competent acquaintance with physiology must precede

and prepare us for such knowledge. We must begin with what is natural, and healthy, and enquire into what is unhealthy, and disordered, and thus learn the latter by contrasting, and comparing it with the former. As the anatomy of healthy structure must always be the beginning, and foundation of pathological Anatomy—so must the physiology of healthy function be always the beginning, and foundation of morbid physiology.

It is my purpose, however, at this time to enquire more particularly into the diagnosis and treatment of infantile diseases. This is a subject that comes directly home to the heart, as it involves the sufferings, and dangers to which the infant is peculiarly subject during its tender years of helplessness; it is a subject

justly entitled to the Serious Consideration of any Medical man, who is anxious to confer upon the afflicted of his race the substantial benefits of a Science intended by the God of Nature to alleviate the sufferings of his Creatures.

Among the disclosures of Medical Statistics, none stand out more conspicuously than those in reference to the uncertainty of life during the earlier periods of our existence. The diseases of the infant from their peculiarity, and obscurity are well calculated to produce much embarrassment on the part of the practitioner; and hence, it is, the ravages of disease invade the sanctuary of infantile feebleness, and sweep the fond anticipations of parental love to the grave, the real nature of the disease never having been suspected. It must be acknowledged that

notwithstanding all the lights of Science upon this Subject the veil of obscurity still rests to some extent upon the diseases incident to this early period of our existence, from which those of mature age are comparatively exempt. The diagnosis in the case of an adult is much less difficult from the fact, that the disclosures of the patient may render material assistance; besides the symptoms being more strongly marked, the case is thereby rendered less obscure.

The obscurity, however, in regard to infantile diseases is perhaps not so great as has been generally supposed, for though they have not the power of speech, their physiognomy, including not only the expression of countenance, but the manner in which the different functions

are performed, is very significant; and discloses not only the seat, but the nature of the disease by which they are affected.

Although these physiognomical signs may render important assistance in coming to a correct diagnosis; yet it must be admitted that more accurate knowledge may be derived from symptoms which admit of more exact analysis; hence with all the knowledge of disordered functions with which our observation can furnish us, we need other information, which can only be supplied by the faithful interpretation of the patient himself, in order to ascertain what the disease really is, and consequently, what the treatment should be; as for example in matters of feeling we must depend greatly upon what our patient tells us; Thus You will at once perceive

into the great necessity in our investigations of infantile diseases of correct diagnosis, and a cautious discrimination in the selection of remedies.

Without a knowledge of the organization peculiar to the infant, their diseases cannot be properly understood, nor scientifically treated.

It is essentially necessary to be well versed in the diagnosis of infantile diseases, as our hope of success especially in acute cases depends upon an early discrimination, so as to apply at once the necessary remedies.

A neglect of this subject has to some extent consigned the diseases of infants to the ignorance of nurses, and tender mercies of quacks. It is our sacred duty then to rescue the fate of infants from the hands of all such ignorant pretenders, and in order to accomplish this

great desideratum, let us patiently study the irregularities of organization, investigate the peculiar character of their diseases, and the remedies best adapted to their cure, that we may be better prepared to curb the fearful mortality to which they are exposed.

We will proceed to a consideration of some of the organs, and the physiological peculiarities by which they are characterized in infancy.

1st The Brain.

This organ though large in volume, is very imperfect in structure, at this early period of our existence, being so soft, as to be almost fluid. In its growth, and progress towards perfection in structure it undergoes important changes in regard to quantity, as well as quality. The increase in size is not so remarkable, as that in the density

of the organ. Between the ninth and twelfth month the brain acquires greater firmness, and assumes to a great extent the aspect and form of that of the adult. It is at this period when the organization of the brain is going on most rapidly, and its functions are being performed with the greatest activity, that it is most liable to disease. Acuteness of Sensibility, and nervous susceptibility in the infant at this period are most remarkable, so that all the impressions made upon the system are felt with exalted sensibility. Sympathetic affections are also very liable to occur at this period in a very aggravated form, so much so indeed that irritation cannot be set up in any of the tissues, much less can inflammation take place, without arousing the heart,

and producing symptomatic fever, or, if directed to the brain Spasms, or convulsions will be the consequence. Previous to the period above alluded to - viz between the ninth, and twelfth month other organs influence the brain but little. On account of the imperfect development of the brain in early infancy there is so little sympathy existing between the different organs, that inflammation may take place in them, ending in suppuration, and the most complete lesions of structure without any manifestation of febrile reaction. These peculiar features of Constitution should never be lost sight of in the treatment of infantile diseases.

2^d Digestive Organs.

The digestive organs are in a state of extraordinary

development at birth. The Stomach, and duodenum are fully formed. The liver undergoes very remarkable alterations in function, and form after birth; the Secretion of bile now becomes the peculiar function of that organ, and as life advances the Size of the organ diminishes Relatively in Volume.

Digestion is rapid and incessant; it is performed with much greater Rapidity in infants than adults as is evinced by the more frequent Calls of the appetite, and the more rapid nutrition of the body. Chyle which is rapidly formed is quickly absorbed, the lacteal vessels, and mesenteric glands being largely developed, and very active.

The mucous membrane of the mouth, Stomach, and whole tract of the intestinal

tube is always more vascular, and irritable than in the adult, and hence none but the blandest nourishment is admissible.

This membrane is peculiarly liable to congestion from various causes among which may be mentioned as the most frequent; indigestible or too stimulating aliment, and irritating drugs with which they are so often drenched; from indiscretions of this kind the digestive mucous membrane of infants is very often affected with inflammation; fatal gastritis, and enteritis are not unfrequently produced in this way. Dentition may also, be mentioned as a productive source of derangement of the digestive organs; there is a participation to a great extent in this derangement of the nervous, and circulatory

Systems; hence there is frequently a point of irritation set up sufficient with its morbid tendencies to produce a high grade of symptomatic fever, and not infrequently convulsions. It is a well known fact that more children die from diseases of these organs than any other, including under this head diarrhoea, dysentery, & Cholera-infantum with the various morbid tendencies, and Sympathies with which they are so often accompanied.

3^d Organs Of Respiration

The respiratory process is carried on with a rapidity corresponding with the general activity of the System. The inspirations number from 35 to 40 in a minute, nearly double those of the healthy adult.

Notwithstanding this activity of the process of respiration, it appears that less oxygen is consumed in the infant than the adult; by which it would seem the function is less efficiently performed. The calorific function, or power of generating heat being less energetically performed in the infant, it offers consequently less assistance to the deleterious effects of cold, and hence the great necessity of protecting the infant from atmospheric vicissitudes. Many children no doubt fall victims to the hardening process to which they are subjected by many who contend that warm clothing only induces delicacy, and greater sensibility to cold, and, that, therefore the best fortification is an early exposure to its influence.

With all the precautions prescribed by the Medical Philosopher, and all the means put into requisition by Maternal Solitude, Cold contributes fearfully to the Catalogue of infantile diseases, and claims a large proportion as its victims.

What has been said of Cold as a morbid agent is equally true of excessive heat, infants being peculiarly obnoxious to inflammatory diseases both should be particularly avoided. What has been said in reference to the mucous membrane of the alimentary canal of the infant is likewise true in regard to the mucous membrane of the respiratory passages viz that it is peculiarly liable to congestion which lays the foundation of

inflammatory affections, and hence the frequency of Coryza, Bronchitis, laryngitis.

4th The Heart.

The volume of the heart is proportionally larger in the infant. As soon as the act of respiration is performed the circulation undergoes an almost entire change, the heart becoming complete in its functions.

There is a more rapid contractility of the organ, the pulse of the infant being nearly double in frequency that of the adult; varying from 120 to 140 beats in a minute. The pulsations though much more frequent are comparatively feeble, the blood not being sent out in so bold a current. These remarkable changes in the organs of the infant from imperf

ection to a state of completeness; this advance manifested in organization, and developement in function, constitute a most interesting subject for the contemplation of the medical philosopher.

These facts abundantly prove the vital or physiological peculiarities which we have attributed to the infant, and hence we are led to the following conclusions: that the great activity which pervades the whole body of the infant, united to a peculiar susceptibility of the nervous system, predisposes them in a particular manner to the sudden invasion of disease; that they are more liable to dangerous sympathetic affections especially those of the head; that functional disorder has a greater tendency

to change to organic, and indeed that all the common causes of disease affect the infant with much greater severity than the adult.

We will now close our remarks upon this subject, with some general deductions upon infantile therapeutics. In nothing are the peculiarities of infants more remarkable than the influence which they exercise over the actions of medicines. Most medicines act with great energy upon the infant, and if the attention of the practitioner be not directed particularly to this fact, he cannot fail to be disappointed, and deplore his want of success in the treatment of infantile diseases. It is not my design to enter into

an analysis of the various formularies, and
Recipes. Therapeutics constitutes the Sci-
ence of indication, and prescription;
Its object is to develop the principles,
and point out the mode of convert-
ing pathological into physiological
phenomena. Purgatives; this class
of remedies when administered with due
regard to the circumstances of each
case may be considered indispensable.
The utmost caution is necessary on
the part of the physician, and those
who control the patient to guard
against excessive purgation; on a cec-
um of the extreme vascularity of the
mucous membrane of the alimentary
canal, irritation, if it does not exist

may be very readily produced by the action of purgatives; inflammation of this membrane has its origin frequently in this cause, hence the necessity of avoiding the more active, and energetic purgatives, except for the removal of obstinate constipation, or expulsion of worms.

An Aromatic may be introduced as often as practicable in order to lessen their liability to produce flatulency, tormina &

Sedatives; irritation being almost an invariable attendant upon infantile diseases, it would seem that this class of remedies is particularly applicable to such cases. The experience of medical men I believe is decidedly against the employment of sedatives in inf

- antile cases except in rare, and peculiar states of the system. The symptoms are hulled, and disguised by the narcotic properties of these remedies to such an extent as to render the real condition of the case much more obscure.

Their exhibition is particularly dangerous, on account of their direction to the brain. The greatest caution is necessary, therefore, in their administration; close observation, and extensive experience being necessary to a judicious employment of this class of remedies.

It must be acknowledged, however, that these remedies when judiciously selected, and cautiously administered may be employed with eminent

advantage in many cases.

Stimulants. Their general, and almost indiscriminate use in infantile treatment has been very properly condemned. The following remarks are worthy of remembrance. "When restlessness, Spasms, or Convulsions arise from exhaustion, as in cases where depletion has been carried too far, or illness has been long protracted, a Stimulant is most beneficial: but if used as an Antispasmodic when such Symptoms arise from an opposite cause, as they generally do, an aggravation of every Symptom will be induced". Stimulants, indeed, are powerful agents for good, or evil; the same remarks are usually applicable to tonics

both may be administered advantageously in many cases, in order to preserve the tone of the digestive organs, sustain the functional activity of the skin, and uphold the equilibrium of the general circulation.

We might dwell more at length upon the comparative merits of the different therapeutic agents employed in infantile diseases, but deem it unnecessary to do so. Our remedial measures should be prompt, decisive, and appropriate. It is by no means uncommon for our best-regulated efforts for relief to end in disappointment; let the fact then of this danger stand as a warning against the

rash, and ill advised employment of
these agents. The prudent practitioner
will, however, under the guidance of
correct principles, and enlightened
judgement, select those conditions of
the system in which these remedial
agents may be advantageously emp
loyed.

Thomas N. Graves.