AN

INAUGURAL DISSERTATION

ON

Dysentery per se,

SUBMITTED TO THE

PRESIDENT, BOARD OF TRUSTEES AND MEDICAL FACULTY

OF THE

University of Nashville,

FOR THE DEGREE OF

DOCTOR OF MEDICINE.

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OF

Tennessee.

1857

JOHN YORK & CO.,

BOOKSELLERS AND STATIONERS,

NASHVILLE, TENN.

" Dysentery per se.

It is not my purpose to enter in to an elaborate discussion of this subject in all of its varities which are numerous and important but shall confine myself to the disease in its simple form. And when mention is made of some of its many complications it will be due rather to the difficulty of isolating entirely the affection from those complications than to any design to discuss the disease in all of its bearings. It will render the further consideration of this subject more intelligible to notice briefly the Anatomical Structures concerned and their order of superposition. Beginning internally we have first the mucous tissue

the lining membrane of the alementary canal. This structure, though richly supplied with blood vessels and nerves ranks lower in the scale of vital endowment than other envelops of the intestine and consequently its involvement in inflammation is not of as serious moment as the implication of tissues of the character intimated. Exterior to the mucous membrane is the sub mucous or fibrous structure which serves to connect the lining membrane with the muscular investment and also as a medium for the transmission of blood vessels and nerves. In the muscular tissue there is a peculiarity in the arrangement of the fibres which though it does not particularly concern this discussion may be mentioned.

In the colon the longitudinal fibres are collected in three bands. while in the rectum the circular fibres are aggregated together in such a manner as to form the internal sphincter.

This tissue has a large quantity of blood distributed to it and has in connection with other muscular structure the property known as contractility.

The next tunic in order of superposition is the Peritoneal, this is the external investment of the abdominal canal.

It is incomplete around the colon entire on the upper third of the rectum but is found in the middle third only upon the anterior aspect - it is entirely wanting in the lower third.

The source from which these organs receive their blood must be briefly

notice for as we shall see in the treatment this is of great therapeutic interest. They are supplied by means of the Hemorhodal and Colic arteries which have an intimate inosculation with the mesenteric arteries that are also distributed to the intestinal canal.

Now as the blood from the hypogastric viscera goes to constitute the vena porta there is a vascular connection between the lower portion of the rectum and the hepatic circulation by means of the Hemorhodal arteries.

This completes our Anatomical review.

Symptoms- Many of the symptoms of Dysentery are in common with diseases of similar character and will therfore recieve but an incidem-

cal notice. The more prominent and those deagnostic of the disease will however claim particular attention.

Tormina and Tenesmus which are present through nearly the whole course of the disease in connection with the peculiar discharge will prove sufficiently deagnostic.

We must now recur to the Anatomical relationships of the Coats of the bowel for the evacuations resulting from their involvement have a striking signification with regard to the extention of the inflammatory action from one envelope to another.

And here I must acknowledge my great indebtedness for many valuable truths in connection with this disease to Dr J. L. Maddin to whose scientific

teachings I owe much and which I hope I have in some degree appreciated in my course of Studentship under his tuition. In the 1st stage of the disease before inflammation has been established in the mucous membrane the discharge are the white of Egg character or "glairy streaked with blood" - this is indication merely of topical congestion. 2d is mucous changed in its physical characters by mixture with blood - a consequence of inflammation in the mucous membrane

In the 3d form the Muscular tissue is involved and is indicated by the "bloody serous" dejections.

In the 4th form which implies an invasion by the inflammation of the serous covering the evacuations of, of the "fortid gramous" character and is indicative

of incipient gangrene. All of these discharges should be carefully studied for they will name the tissues involved and in this way greatly assist our prognosis.

Upon implication of the peritoneal investment other symptoms are superadded which portend an almost certainly fatal result. This we can readily understand if we remember the highly vitalized endowments of this tissue and the great proclivity that inflammation has to diffuse itself rapidly through its structure.

Dyspnoea is a prominent symptom when the inflammatory action has reached the serous investment and when with this symptom there is an entire cessation of urination and tenesmus with cold clammy skin a feeble frequent and irregular pulse - muttering delirium - hiccough

delirium - subsultus tendinum - with a comatose state we have but little hope of a favorable termination.

The symptoms above enumerated are developed subsequent to the premonitory signs when such exist, such as general uneasiness - lassitude - anorexia or impaired appetite - transient pains in the abdomen - with some fever which is generally more or less prominent throughout the disease.

Prognosis. Simple Dysentery is generally regarded as a manageable disease and frequently requires but little treatment other than that of regulating the diet and mild purging with some of the hydragogue cathartics. If however any of the complications are present favoring malignancy the prognosis should be guarded.

I will discuss at some length the Cause of the

disease for it is of interest in the treatment and as the basis for prophylactic measures.

It is well known that Dysentery is much more prevalent and fatal in tropical climates than in more temperate regions.

The cause of this is evident. Heat is one of the elements that in the aggregate constitute function; and as a due degree of temperature is requisite for the proper performance of function by the various organs it is obvious if the organism is surrounded by a medium the thermal constituent of which is below a temperate standard that the calorifacient action must be more energetic. And this is known to be the case in northern regions. The theory of the production of Animal heat is not legitimately our province to discuss.

It will therefore be but physically

notices. The two principal elements concerned in the production of Animal heat are Carbon and Oxygen. The first results from the destruction of tissue that is constantly going on in the body - but in northern climates this source is not adequate to the demand for as is evident heat in those regions must be generated within the organism - this inadequacy is compensated for by employing an oleaginous diet which contains a large Amount of Carbon.
The other element oxygen is derived from the Atmosphere and is received into the system through the Lungs.
It may be stated as a general law that heat is always a product of Chemical union and its intensity proportioned to the Energy of Combination. The union of Carbon and oxygen was long believed by Physiologists

to take place in the lungs and these organs were regarded as the great source of Animal heat. But this view is not sustained by recent investigations. It is now believed to take place in the tissues throughout the body and the union in the lungs to be a mere mechanical mixture and due to the law of "diffusibility of gases"

The Lungs have also another important office - the Elimination of Carbonic acid from the blood produced by the union of Carbon and oxygen in the tissues, & Aqueous vapor.

In northern climates the great action of the lungs in the function of Calorification would at once lead to the conclusion that they are much more amenable to disease than in southern latitudes.

And in this conclusion we are sustained by the fact that Pneumonia and kindred affections are much more prevalent in the former than the latter districts.

The lungs and liver are vicarious to each other and the result of vicarious action or (if the expression is allowable) metastasis of function is of interest in the etiology of Dysentery.

It will be remembered that one duty of the lungs was to throw off Carbonic Acid and watery vapor from the lungs.

In tropical regions where the necessity for great action on part of the lungs does not exist it becomes the duty of the liver to eliminate this hydrocarbonaceous principle which is not needed for the production of heat,

The liver is thus required to perform its own function and in great part that of the Lungs - hence its activity must be greatly increased and in proportion as its Secretion is more than normal in a similar ratio will it be indifferently elaborated. Here then are two causes concerned in Dyspepsia - the 1st increase in Quantity with 2d a deterioration in Quality. The first may determine the second aggravate the disease.

I have been more prolix than I designed in the discussion of this part of the subject and will add but a few remarks upon it.

Heat may act as a predisposing cause of the disease by augmenting the excitability of the mucous membrane

lining this portion of the Alementary passage, and by its relaxing effect upon the body generally, - thus rendering the system more susciptible to the impulsive effect of cold which checks the action of the Skin and determines the excitability internally - Congestion of the portal Circulation ensues and Dysentery is the result.

Acid and unripe fruits & putrid Effluvia &c are prolific sources of the disease either directly or indirectly by by establishing a Diarhoea which may from improper treatment or some other cause terminate in Colitis.

Treatment.

In Dysentery as is characteristic of Practical Medicine many systems have been imposed. But a Symptomatical

Statement of the principal remedies will be more consistent with the design of this paper than a lengthened discussion of its therapeutics.

Emetics have been recommended in the early stage of the disease to prevent its development. And the shock they produce on the system would perhaps have this effect. But the Physician seldom sees the patient until it is too late for their employment.

In cases of plethora with quick pulse and especially if the inflammation has a tendency to rapid and destructive disorganization general bleeding must be instituted but this should be avoided if the symptoms are not too urgent.

Local depletion will be of great advantage in this disease and may be employed when Venesection would be contra-indicated.

By recurring to our Anatomical Synopsis we see that through the Hemorhoidal Arteries we can have immediate communication with the portal system; hence in the discussion of the symptoms we were made familiar with the congestive state of the liver and its bearing upon the disease. We can now readily appreciate the advantage that will follow the application of Leeches around the anus. As many as can, should be applied after the parts have been properly cleansed after their removal fomentations should be used to favor

the bleeding. There is frequently large accumulations of fecal matter in the bowel which is irritating and should be evacuated this is best accomplished by a full dose of Castor oil to which may be added 20 or 30 gtt of Spts Turpentine.

As the only correct method of relieving the inflammation and consequently the disease is by a system of local depletion I would institute a mild Mercurial Stimulation of the hepatic function - this will relieve the portal congestion. From the influence that hydrogogue cathartics exert - as depletants it is evident that their employment in this disease would aid much to the success of the treatment - From its mildness yet

great depletory action Sulphate of magnesia is the one of this class generally prefered. Not only does it aid the depletory effect of the Mercurial from the portal circulation but it also dilutes the vitiated bile and thin acrid contents of the alimentary Canal and causes their evacuation.

Ipecac should be combined with the Calomel for its relaxing and diaphoretic effect.

An injection of 2 or 3 oz of mucilage will frequently quiet the distressing Symptoms for a time and if much pain is present some of the preparations of Opium should be added.

Nit Silver injections have been highly praised in this disease

and from its great efficacy in inflammations elsewhere we should be willing to admit it here.

It should be employed in from 5 grs to 3 i to an oz of distilled water, thrown high up the bowel and retained for several minutes - If it causes much pain 1 or 2 gr of Morphia should be added to the Clyster.

Sulphate of Copper and Zinc have been employed in a similar manner and with like effects.

In cases of Simple Dysentery of a malignant type where typhoid and dysenteric symptoms of a similar character are present - blisters should be applied to the abdomen with Spts of Turpentine internally,

Diet &c. Great care must be

observe in cleansing the room of the patient as well as his person and bedding. All excrementitious matter should be removed and the apartment well ventilated.

In the early stage when the inflammatory action is high the diet should consist of Gruels - Gum Arabic, mucilage - Arrow-root &c. Later in the disease when debility is great the Animal broths jellies &c may be allowed.

In convalescence all irritating ingesta should be avoided and the patient confined to a mild and nutritious diet.

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March 1st 185 7.