LECTURE
ON THE
DISEASES OF CHILDREN.

DELIVERED IN THE

Chatham Street School of Medicine, Manchester,

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LECTURE IV.

Diseases of the Heart; Abdominal Symptoms; Vomiting; some qualities of Diarrhæa.

I WILL conclude the examination of the chest with some remarks concerning the diseases of the heart. Chronic and organic affections of this central organ are rare in children. The foetal communications very seldom persist above a few days after birth. Cyanotic colouration of the skin, in a slight degree, as I have had occasion to ascertain in children, arises sometimes from various disorders, in particular of the portal system. The *bellows-sound*, sometimes the *purring*, must be always present in the case of unclosed foetal communication of the auricles; but it must be remarked, that *bellows-sound* and *palpitation* are also the essential symptoms of a certain degree of chlorotic æmæmia, and in this case we perceive a similar sound even over the carotids. Some authors say, that, acute affections of the heart and pericardium are very obvious in children; I did not frequently meet with either pericarditis or endocarditis in infants and young children. At the commencement of both of these affections, our hand laid beneath the areola mammæ, will perceive very violent pulsations, even visible by correspondent movements at that part of the chest. If percussion gives a more or less extensively dull sound over the heart, and, by auscultating, we hear less clearly the natural sounds of the circulatory movements, we must suspect transudation in the pericardium. In the second stage of pericarditis, if only a small quantity of lymph is exuded, we hear, not always, a distinct rubbing sound, or *friction*; but then, after some more lymph has been transuded, the rubbing sound becomes more hard and more audible. Rubbing, then, is the character of the exocardial murmur. The further progress of transudation is noted by increasing dullness, if we percuss. If, on the contrary, these phenomena are absent, and we hear an abnormal murmur, like strong blowing, *bruit de soufflet*, in particular joined with the first or systolic sound, this denotes endocarditis. The best English authors call this the endocardial murmur. If these affections are acute, we observe almost always a dry cough, dyspnoea, with occasional long and deep inspiration, anxiety in the countenance, and invariably elevated dorsal position, and expression of pain; which symptoms are absent in chlorosis.

Dislocations of the heart in consequence of large

pleuritic exudations in the left side, easily give rise to a mistake in diagnosis. Some authors say that this case is rare in young children. In fact, I cannot say I have frequently met with them, but still, nearly as frequently as with idiopathic inflammations of the heart. I have even seen some children, about two years old, survive this serious derangement, and more of them at a more advanced period of childhood. In one of these cases which I examined four months after the affection took place, the basis of the heart was protruding one inch on the right side of the sternum: percussion gave a moderate dull sound at the lower-third of the left side of the chest, laterally and anteriorly, and the vesicular murmur was not yet clear enough; no doubt, in this case, besides the transudation, which was already absorbed, extensive adhesions took place between the pleura of the lung, that of the chest, and that of the diaphragm; consequently, the displacement of the heart became permanent. Less important degrees of this mechanical disorder of the heart I met with more frequently, which we are always enabled to discover by touch, auscultation, and percussion. There is constantly a certain degree of dyspnoea and much propensity to palpitations, which prevent the affected individuals from walking quickly.

You can find very valuable information about carditis and pericarditis in Dr. West's (of London) lectures. Only I must observe, that, according to my experience, acute inflammation—exocardial as well as endocardial—in infants and very young children, causes in general, very soon, convulsions, and death before severe material changes could take place.

The *symptoms of the abdomen* are worthy our fullest attention. We look at first at the *volume* of this part. A large abdomen combined with a large skull, and thin-flabby extremities, is a symptom of scrofula or rachitis. The examination of this part must be performed with delicacy and cleverness, in order to prevent crying, during which the abdominal muscles are in a state of tension, which prevents our detecting material disorders; and as then, a crying child is also peevish, we cannot easily distinguish if pressure causes real pain. It is frequently necessary, to steal from behind towards the child placed in the arms of its nurse, and then put our flat hand transversely on the upper part of the belly. Thus, we commence to exert gradual pressure, and if the child cries violently we make use of the act of inspiration for our purpose, because during it the tension of the abdomen lessens. At last we uncover the belly and apply percussion. If pressure on the upper part of the abdomen causes an expression of uneasiness, and some difficulty in respiration, we must be aware of this circumstance as perhaps proceeding from an affection in the chest. We must not forget also, that large pleuritic exudations push the liver or the spleen down into the abdomen, sometimes to the extent of about two inches below the limit of the ribs. It is sometimes only by percussion we can get exact information about abdominal disorders. Dull sound in the lower and lateral parts is the symptom of the collection of the liquid, either transudation, or suppuration. In these

cases there is almost always about the upper regions of the belly, a clear tympanitic sound, able to veil the real affections, if we are not careful in percussing all points. Flatulence or tympany gives a clear sound on the whole extent. Bloating or tympanitic abdomen is proper to gastric or typhoid fevers; sunken or collapsed abdomen belongs, in preference, to cerebral transudations. This alternative holds in the great plurality of cases.

If we find the *temperature* of the abdomen the most elevated of the whole body, we may conclude on a gastric affection, inflammation in this cavity, or a fever with gastric character.

It is needless to mention local affections of the navel, or some other easily perceptible and intelligible external complaints.

Every practitioner will inquire into the state of the abdominal functions, and value the information which he can get; but vomiting and diarrhoea, as physical phenomena, concern in particular our present purpose.

In *sucking children vomiting* occurs frequently; and if there is not any other disturbance joined to it, it has no serious signification. But as vomiting is frequently the symptom of real disorders, we must consider the quality of the ejected matter.

Saburral acid matter, composed of undigested milk or food mixed with different secretions of the stomach and of the liver, is the most frequent kind of vomiting in sucking infants, containing more or less of coagulated or imperfectly digested milk. It becomes more or less frequently repeated in digestive disorders, but is also sometimes apparent at the commencement of acute affections.

Bilious vomiting is rare in little infants, but more frequent in children. I observed it many times at the commencement of acute fevers, particularly in the eruptive; at the commencement of pneumonia or pleurisy, and in true inflammatory meningitis. In this latter case we find the abdomen in a more collapsed state, than in the former.

Mucous vomiting, consisting of more or less consistent clots, is peculiar to catarrhal affections, and frequent in bronchitis or broncho-pneumonia.

Serous vomiting, very liquid, containing mucus, succus gastricus and serum, sometimes a proportion of bile, is one of the symptoms of hydrocephalus, connected with a very collapsed abdomen.

These are only outlines; and only as such I beg you to consider what I am now proceeding to say about some qualities of diarrhoea.

1. The *yellow* discharge. I mention it as the regular kind of stool in infants. It is a mixture of intestinal secretions with bile. As children advance in age, and begin to take substantial food, the colour of their regular discharge becomes more and more of a light brown colour.

2. The *mucous* discharge. White mucous matter, more or less thick or liquid, and mixed with serum, sometimes with a proportion of bile. This discharge is preceded by but moderate pains, and frequently by no pains at all. It denotes a catarrhus, sub-inflammatory, or irritable state of the intestines, and is almost always of

local, and not of sympathetic, origin; in general it is not dangerous, and at its commencement is easily manageable by opiates, warm poultices, and convenient hygiene. If neglected, it becomes pertinacious and severe, and not seldom connected with swelling, softening, or granulous luxuriation of the mucous membrane, or ulceration of the follicles. If stripes of blood are mixed with the mucus, and pain be present, it denotes a higher degree of inflammation, in particular of the follicles. The highest development in this direction constitutes enteritis or colitis (dysentery).

Sometimes we find among the mucus, consistent *plastic concretions* of a more or less tubular shape, similar to those of laryngeal croup, but larger in proportion to the volume of the intestines. This is the strongest degree of the catarrhus process, which I might term the *croup of the intestines*. Among the whole number of my little patients, which may be about 30,000, I met with this discharge perhaps only twenty or thirty times. The discharge is effected with very painful efforts at a stool.

3. The *serous*. In general, after more or less severe pains, the discharge takes place with a certain rigidity and noise, after which the pains lessen or subside. It consists of an abundant quantity of serous liquid, dirty whitish, yellowish, or greenish, as, besides mucus, bile is the most common mixture with the serum. The serous diarrhoea is commonly the effect of rheumatism in the peritoneum, in the serous and fibrous membranes, or in the nerves of the intestines. I found in these cases the abdomen very hot. If a great deal of mucus and some blood are mixed with the serum, we may suspect parenchymatous enteritis; if the serous membrane alone enters into the state of acute inflammation, frequently transudation takes place on its free surface.

I have seen cases of profuse serous discharge, in a very short time, even in less than twenty-four hours, produce collapse and death, and in some of these instances necroscopy could not discover an adequate alteration either in the mucous or in the serous membrane.

The serous species of discharge is frequently merely a product of sympathetic secretion. I observed it sometimes connected with large transudations in the chest, and with chronic hydrocephalus.

Speaking in general, serous diarrhoea, if even arising from rheumatism, is more difficult to manage than the mucous. Very minute doses of calomel, with Dover's powder and mustard poultices, are frequently beneficial.

Pure serum, like rice-water, is a less favourable quality than the dirty-white or yellowish. Dark-brown serum frequently denotes a disorder in the portal system, present in some severe gastric or typhoid fevers, but I have seen a similar quality also in chronic affections of the brain, and very frequently in scrofulo-impetiginous children. This is worthy our attention, in particular if eczema or impetigo has disappeared from the head and face. This brown and foetid discharge accompanies sometimes the commencement of chronic hydrocephalus. I treated it successfully, in this last case, with high but very diluted doses of iodide of potash.

4. *The green bilious discharge.* If pure bile, then the voided matter is in general not abundant; in young children it is of a more yellowish than green colour. The essential character of bile is, to be of a greenish colour (in infants it is voided green) at the very moment of its evacuation. This kind of discharge is very frequently present in acute inflammatory and febrile affections; if dependent upon an affection of the brain, then we may find the colour to be rather brown, and the abdomen retracted. If a similar source produces abundant serous-bilious discharges, then we find the abdomen much collapsed. But I must observe, acute affections of the brain are almost always connected with constipation, only in some cases of chronic hydrocephalus I met with the mentioned diarrhoea. Bilious discharge, as arising from bilious fever, or from derangement of the liver, is rare in young children. In this case the right hypochondrium will be more or less bloated up. We must be careful not to confound the green bilious discharge with the following:—

5. *The discharge, like chopped eggs,* mixed with mucus, some clots of bile, and caseous coagula of indigested milk, or other kind of food, accompanied almost always by gripes and flatulence; its smell is disagreeably acid, and the whole matter, some minutes after being discharged and exposed to the atmosphere becomes green. We know not exactly the chemical change which produces this colouration, it seems to be an oxydation of some of the elements. Then the essential character of this discharge is, that it is yellow at first, and becomes green by exposure to the atmosphere, whilst bile is green at the moment it comes out. I shall call this *the acid saburral discharge*, which is the most obvious before the sixth month of age, in particular if the sucking child takes, besides the milk, some farinaceous food. Practitioners commonly prescribe in this case rhubarb, with magnesia. For my part I prefer, in tender infants, to rely more upon a convenient change in the diet, and as a remedy, aromatic frictions of the epigastrium, and internally bicarbonate of soda, dissolved in mint water.

6. *The bloody discharge.* Pure red blood is seldom discharged by children; in some rare cases I have seen half or one table-spoonful come out, as the product of active congestion and hæmorrhage. Very frequently, on the contrary, blood is combined with the mucous discharge, and in this case, if it is preceded by pain, without tenderness, it denotes an inflammation in the upper parts of the intestinal tube, at least not near the rectum. Tenesmus signifies that the seat of the inflammation is in the lower parts of the colon, or in the rectum. This form is commonly called *dysentery*, not dangerous, if it is without bilious complication and fever, and if treated in its early stage with Dover's powder, some doses of castor oil, and warm poultices; in a stronger degree leeches at the anus; but if neglected in the commencement, it becomes dangerous to the life of the child. Professor Rokitansky, of Vienna, describes most exactly what he calls the "dysenteric process," in three gradual degrees of anatomical change. The highest degree, presenting a dirty red

and grey marbled surface, with considerable thickening, granulation, and ulceration, I never saw in the tender age. Young children die before this stage is developed.

Passive hæmorrhage of the intestines very seldom occurs in children. I have seen, however, some cases where, without adequate pain, a considerable quantity of dark thin blood was discharged. Lastly, we have seen in this town, with Mr. Wilson, a case in a child six years old, where, during the course of a gastro-typhoid fever, more than one pint of carbonized blood was discharged in two days. The case recovered. The boy is affected with an enlarged spleen.

Moderate quantities of red blood, discharged without pain, frequently occur, mixed with mucus, and are, without signification, sometimes even connected with the advance of recovery from gastric affections. This is the same case as with epistaxis.

Golding Bird and Simon state, as the result of chemical analysis, that some dark green stools of children owe this colour to blood which has suffered a certain chemical change; but those chemical inquiries are not yet arrived at a satisfactory exactness; we do not even know exactly what kind of green discharges were the subject of these inquiries.

7. *Calomel stools.* Green, more or less thick, or mixed with serum, and in this case more abundant, produced by full doses of calomel. Calomel stools resemble bile, and contain much bile, but they contain also some particular chemical elements which we do not exactly know. In many instances it happens that the calomel diarrhoea commences some days or weeks after the use of mercury, and we must be aware of this, and not confound it with the primary bilious discharge. In the former case the region of the liver is in general softer than in the latter. A clever practitioner will never try to stop directly, and with astringents, a green discharge, whatever be its origin and nature.

Calomel stools contain sometimes blood. After what I have seen in dissection, I incline to attribute this circumstance to a sub-inflammatory state, with superficial erosions of the mucous membrane, which sometimes take place in children after the continued use of calomel.

Once more: I beg to intimate that, I consider all these qualitative and physical distinctions of the discharges of children as very imperfect outlines of a sketch, which by farther physical and chemical inquiry can, and I am sure will, become corrected and perfected. There are, infinitely numerous modifications and combinations, conjunctions of the forenamed qualities. The serous discharge itself offers very manifold colours, which I am not able to bring before you in a well digested diagnostical form; I think, however, the intelligent practitioner will be able to derive some advantage from the principal qualities of the diarrhoea of children already described.

On the next occasion we shall speak of the urine.