Clinical Examination of Children

with indications for treatment

by

Thomas Davidson M. B.

June 1887

ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 – 1346

After some years of patient study I can only record my observations in a very imperfect manner, but the statements made are honest & are all gathered from jottings at the bedside of the sick child. I have not attempted to take up many of the affections of childhood but have confined myself to the more prominent symptoms; those symptoms which are often most difficult to interpret especially by the young practitioner have received what attention I have been able to bestow on them. My great drawback has been distance, and the extent of ground travelled by a physician in the country & the time required driving and visiting forbid attendance often necessary in acute attacks. Many times when patiently trying to discover the nature of a child's illness I have given the matter up and come to the conclusion arrived at by many others that no man can solve these difficulties At other times through the intelligence of a mother things have opened up in a wonderful manner giving me courage to go on.

The difficulties of diagnosis are often great on account of the helpless silence of the child and the inaccuracy of the attendant. On another occasion the child may be so restless and excited that no examination is possible

These conditions call for the utmost patience and when the confidence of the child is once obtained all difficulty often vanishes. I have found nothing more useful in conducting these examinations than my watch, a lighted candle and the stethoscope - It has been my custom on entering the sick chamber to sit down and talk to the mother or nurse on general subjects, and after a time - for nothing can be gained if a hurried visit is made - lead up to the occupations of the child, the food partaken of, the clothes worn, the date when illness was first observed and the exact state of health previous to the present attack, and while this questioning process is being carried on keeping an eye on the sick child - After a short time the child discovers that no harm is to be done, and unless in a very irritable state the examination may be proceeded with.

The family history as a rule is so well known to the general practitioner that little investigation is called for in that particular direction - Accordingly the

Personal Examination

is the first thing that engages the attention and coming first as being most conspicuous and most easily taken notice of is the

Countenance.

While careful observation of the general appearance, development, and state of the skin can be made in the waking state, the decubitus, motion of the legs and arms, rolling of the head we should be noted when the child is asleep - A look at the face often gives the key to an illness. The placid smiling face indicates good health. The contracted forehead or drawn mouth is evidence of suffering -; the suffused look, fever -. the sallow skin, defective digestion, the dilated nostrils - difficulty in breathing - These may all be observed in the sleeping state and it is highly important that every fact connected with pulse and respiration be noted as far as possible when the child is asleep, because in sleep only can a reliable record be obtained. Even in sleep there is great difficulty in counting the short irregular and uneven ~~pulse~~ breathing which takes place under two years of age on account of the imperfect action of the muscular apparatus. Some things such as Choreic movements are only observed in sleep when they are of an aggravated form - As many phenomena are only seen when the child is awake, and as those seen in sleep are often aggravated

during the waking state it is of the utmost importance that the little patient be seen in both conditions - It is sometimes well to see the patient in an excited state or one of fear as paroxysms of coughing or exaggerated choreic movements may then be seen which otherwise would escape observation. So long as the child is well sleep is quiet, and only when hunger is felt does that child wake up and get restless. No sooner, however, does the machinery get out of working order than restlessness, peevishness, or the intermittent or continued Cry of pain is heard indicating that something is wrong.

In two occasions I erred very considerably in my diagnosis, or I should say was altogether wrong, when a more prolonged and careful investigation would have helped me to a correct diagnosis - In both cases the children were crying, the one constantly, while the other got short [illegible] clear of pain. The former was diagnosed as a case of dentition, and the latter as one of indigestion with great constipation Twenty four hours after the right ear began to discharge in the former case - In the latter castor oil failed to move the bowels and enemata of soap and water merely removed scybala and some gas

giving temporary relief. This state of matters continued for twelve days during which time the child got exceedingly emaciated and sallow in appearance. The tongue was thickly coated with a whitish fur having aphthous patches on the tip & edges, and the child lay apparently in great suffering with his legs well drawn up & his forehead deeply corrugated & furrowed. It now occurred to me to give the child cows milk in a diluted form believing the mother's milk to be bad. In a short time all crying ceased. I then tried the cows milk & also put the child to the breast when it contained anything and found that in this way the child still progressed. This showed clearly that the mother's milk was quite good in quality but was defective in quantity, and the child was all along suffering the extreme pangs of hunger. Afterwards I recalled the fact that the child greedily caught my finger when inserted in the mouth. Frequently since that time like cases have been met in the case of women with first children.

Crying may arise from many and various causes. The cases which follow still further illustrate some of the rarer examples met with.

J. F. aged three years. Healthy and well developed.

Was brought by his mother on account of internal abdominal pain which made him cry for hours. A careful examination of the abdomen failed to throw any light on the case and the mother was requested to watch carefully the character of the motions passed, and the time or times pain manifested itself. After two days it was discovered that pain began when the perpendicular position was assumed and disappeared on assuming the horizontal. Also that the motions had streaks of blood coating them.

On separating the buttocks and slightly opening the sphincter muscle* a red glistening body not larger than a cherry was discovered in the anus. On the following day chloroform was administered and a rectal speculum introduced when a polypus with a long pedicle was found two inches from the anal orifice and on the anterior surface of the bowel.

Treatment. There was some difficulty experienced in ligaturing the pedicle with a strong waxed thread as no sooner had the rectal speculum seized the growth than it removed the part laid hold of causing it to bleed. With the long forceps & the fingers the ligature was successfully applied. He was kept to bed for a day

or two when the polypus came away. It has not returned again.

It was most tempting when the polypus was well exposed not to have taken hold of it and twisted it off at the base, but the danger of injuring the blood vessel and causing haemorrhage kept me from acting so. The constant crying of the child was due to the fact that the polypus was of sufficient length to be caught by the sphincter when the erect posture was assumed & the spasmodic contraction of this muscle would cause dragging on the base thus affecting the sensory nerves.

Mabel M. aged 2 years looked healthy & well developed. There was a history of extreme constipation or as the mother put it obstruction of the bowels. For two or three hours every day the child cried continuously, after which time a dry hard mass of faeces was passed with relief to her. Abdominal examination gave negative results. There was no evidence of enlargement in either iliac region, nor was tenderness present. Treatment: Chloroform was administered when a hardened mass of faeces was broken down and removed by the fingers. There was no obstruction felt, but the bowel was very much dilated and its walls did not come together on removal of the

contents - Enemata of Soap & water were given daily for two or three weeks as well as stewed prunes and apples, porridge and milk &c. As the lower bowel still remained accumulated at the end of three weeks suppositories containing tannic were given daily with very beneficial effect.

The constant crying for some hours each day was due to the hard dry mass of faeces lying against the Sphincter irritating it & causing a bearing down pain. The bowel was so distended that it had lost its expulsive power & great care was required to prevent it filling up again.

Maggie R. aged one year. She had always enjoyed fairly good health, but looked rather thin & pale. She belonged to a very phthisical family. When first seen she had cried more or less continuously for twenty four hours. The face indicated that she was suffering great pain, but she was so irritable and objected so much to my presence that I was completely baffled and had to content myself with noting a temperature of 103° F. a furred tongue, some vomiting, & constipation. The pulse could not be counted, and an examination of the abdomen was out of the question on account of the tension of the abdominal muscles. There was no cough or difficulty in respiration.

I came to the conclusion that she was suffering from a bilious attack and ordered a teaspoonful of castor oil. Next day the examination was equally imperfect - The castor oil had acted on the bowels but with no relief to the little sufferer - the state was similar to what was noted first day. The parents were very unobservant and could help me in no way, and this state of matters went on for two days more during which time she partook of nothing save a little milk which the stomach frequently rejected. The temperature still stood at 103° F. & there was great thirst. On the fifth day a hurried message was sent me saying the child was all swollen on the right side. And sure enough this was the case. The child lay in a troubled sleep and there was detected without any difficulty a great fulness in the caecal region extending to the right lumbar region. The feeling imparted to the hand was one of doughiness rather than hardness and when the presence of obscure fluctuation could be detected. The sad fact was now forced on me that I had allowed an inflammation attack in the caecal region to pass on to a state of suppuration without an effort being made to arrest its progress.

Poultices were now ordered to be applied every two or three hours. Beef tea and brandy were administered as well as milk to keep up the strength. At this visit the temperature was 102°7. Pulse 170 Respirations 42.

On the sixth day patient continued much the same. Pulse respiration & temperature were as on previous day, & the pulse felt fairly strong & regular. The bowels acted today & there was absence of vomiting. There was no fulness or tenderness over the abdomen except in the Cæcal & lumbar regions.

On the eighth day chloroform was administered, and as fluctuation could be distinctly felt in the cæcal region the needle of the aspirator was inserted close to the crest of the ilium to avoid the peritoneum as much as possible. Fifteen ounces of pus were drawn off. The opening was covered with adhesive plaster and as an amount of hardening remained poultices were again ordered.

After two days chloroform was again administered and about ten ounces of pus withdrawn by the aspirator. But now the adhesive plaster failed to close the opening and I found matter had escaped into the bed on my next visit. As the opening made by the needle was too small on the

fourteenth day a bistoury was inserted and the opening enlarged - Pads of lenat were now applied. The cavity was not syringed out as the liquid injected might distend the cavity. On the thirtieth day the wound was quite healed up & altho this severe illness had left the little patient very much reduced yet under good fresh milk, fresh air and tonics she made an excellent recovery.

Remarks Acute syphilitic & pericty syphilitic are easily recognised as a rule when met with in children who can speak - In this case I was completely led away by the vomiting and constipation as indicating an acute bilious attack. I was not able to satisfy myself about tenderness of the abdomen as an examination of it could not be obtained until the diagnosis was clear. The sudden nature of the illness removed all doubt of its being an abscess due to caries of the spine as previous to the illness good health was enjoyed. I am unable to give an explanation of the cause of this inflammatory attack in this particular region and had it been recognised at first, resolution might have taken place. Should a similar case occur I will not use the aspirator but freely lay open the cavity ~~under~~ with antiseptic precautions -

The class of case next illustrated might have been better placed under the heading "abdominal" than "crying" but as sudden screams and peevishness were very prominent symptoms I have placed them here and under the heading of

Acute Indigestion

I have not been able to obtain any satisfactory information in the works of Dr. West on acute indigestion when accompanied by high temperature as seen in the following cases. The cases have all occurred in children who were in infancy, that is to say who had not completed their first dentition - In only one of the cases did a bottle appear to give trouble

Symptoms. After a restless and feverish night daylight revealed a child with a furrowed brow and highly suffused Countenance indicating that pain and feverishness were present. Pulse was 180 full and bounding - Abdomen was slightly distended and hard - Respirations were fast and irregular, but there appeared no evidence of difficulty in breathing - The tongue was thickly furred with a whitish

flake deposit. Eructations and a tendency to retch were present. The temperature was 104°7. Child moaned more or less continuously and occasionally screamed while the limbs were being constantly pulled up and down - Thirst was very great. In two of the cases vomiting took place without any apparent relief to the symptoms - Constipation was present in all - A teaspoonful of castor oil was ordered as an evacuant -

On the second day the child was found in a similar condition. The castor oil given on the previous day had caused a regular "pipe clay motion" with a most offensive odour, the passage of the faeces causing great pain on account of its very hard and tough character - There was a complete absence of bile in the motions

On the third day the fever was gone and the child lay in a languid and depressed state - The skin was now sallow, the tongue had rather a brownish fur, and occasionally there was loud crying on account of colicky pains.

There was no tenderness detected over the abdomen; there was still pain when the bowels acted and, while, the faeces contained much undigested milk and a coating of mucus, there was also a much greater quantity of bile - After a few days the stools assumed a better character and after ten or fourteen days appeared all right again - The infants gradually got more contented as improvement took place and sleep was longer in duration and restlessness less marked -

These cases were all alike so far as symptoms went. In two children three such attacks have taken place at longer or shorter intervals

Treatment

As an evacuant a teaspoonful of castor oil was administered in order that the intestinal canal might be cleared of any offending material - And to reduce the temperature Spiritus aether nitrosi and tincture of aconite were given as well as liquor ammoniae acetatis - A warm bath also ordered seemed to be soothing in its action - This treatment was in

hours followed by.

℞

Hydrargyri ē creta gr ½
Bismuthi alb. gr X ½
Sod. Bicarb gr ⅩⅤ

M ft pulv.

Sig One to be taken every 3 hours -

to promote if possible the secretion of the liver and intestine as there appeared to be a complete absence of bile. The food was limited to half an ounce of milk with a like quantity of barley water given every hour: When the bowels failed to act under the above treatment half a drachm of phosphate of soda was given in the milk twice in the twenty four hours, and this as a rule had the desired effect. And I may here remark that I find no more useful drug than phosphate of soda in the case of children suffering from a sluggish liver, that is to say if only a gentle hepatic stimulant is required - In jaundice due to catarrh of the bile ducts I have had no occasion to use anything else for some years back -

As soon as the evacuations appear fairly good nothing is given save a few grains

Of pepsine dissolved in the milk. If the weather is good the infant is allowed to be taken outside as soon as the temperature reaches normal. At times when pain was very great and the infants kept screaming the mothers administered brandy toddy, and this it was asserted by them soothed the infant and enabled sleep to be got.

In one case where vomiting took place the infant was ten months old an had an upper incisor tooth pressing hard against a very highly congested gum. This was freely cut down on but gave no apparent relief. On the following day the child took what the mother said was a small convulsion, but on investigating the conclusion was arrived at that it was nausea as the child got deadly pale during the said attack while there was no tremulousness of the muscles or staring of the eyes indicating that a fit was taking place.

The irritable stomach, abdominal fulness, and constipated pale motions enabled me to decide the nature of these attacks. In all the cases the onset

was more or less sudden. In one child the illness was ascribed to bad milk got at a railway station when travelling. In another it was due to walnuts which were partaken of, while in the others no cause could be assigned. In none of them was there evidence of other disease, and in all of them a careful search of the mouth and fauces was made but no trace of the patchy throat of scarlet fever was seen. I make a point of examining the throat in the case of all children who cannot speak or are too young to express their own sensations, and this useful lesson was first taught me some years ago when in consultation with one of my neighbours. The lassitude, the occasional vomiting and fluctuations of temperature were ascribed by him to gastric disturbance. On searching the mouth and throat typical diphtheritic patches were found, but found too late to save the poor child. This diagnosis was subsequently confirmed by the other four children in the family taking the same kind of throat the three youngest of whom died while

the oldest a girl of eight years recovered subsequently suffering from paralysis in almost every muscle of her body.

During the six years I have practised here I have only seen one case of acute indigestion accompanied by convulsions. He was a strong healthy boy. First-dentition was completed and up to within an hour of the attack he appeared to be in perfect health. When seen immediately after the convulsion his temperature stood at 102.4°F. Three fits took place within two hours. There was no evidence of cerebral disease. The pupils were normal, breathing rapid but regular, the pulse regular and no vomiting.

A drachm of castor oil was administered and in three hours a large piece of raw apple was passed, after which there was no repetition of the attack, the feverishness soon passing off leaving the little fellow well.

I have little to say on the subject of Convulsions in the infant, but I am quite convinced that these attacks are much less frequent from dentition pure & simple

than is generally supposed. I have never had a fatal case, and only once within the last four years have I had recourse to the lancet to ~~release~~ liberate a ~~the~~ tootle, and in this case it was merely to satisfy an anxious mother who would at once have procured the services of some other person if I had not scarified the gum. In the first two years of practice I scarified the gum frequently with apparently good results. One child who resided twelve miles distant had each tootle cut through, and as each one appeared convulsions set in as many as fifteen taking place on some occasions before any relief could be given the distance being so great. Immediately the gum was scarified there was a cessation of the convulsions. I abandoned this line of treatment as on one or two occasions the gum healed up after scarification leaving a much harder and tougher structure for the tootle to break through afterwards. My practice is to administer repeated doses of bromide of potassium with tincture of aconite and chloric ether regulating the dose to the age of the infant. The

aconite is given to check the febrile disturbance usually present while the bromide of potassium & chloric ether allay the nervous excitement present. Indeed I look on chloric ether as one of the best sedatives for children - In addition to the above a dose of calomel or castor oil is usually administered as a speedy evacuant; for frequently convulsions are due to over or improper feeding in a child who is at a critical period of life —; at a time when active physiological changes are taking place, and when the nervous system is highly susceptible. I have never seen convulsions from worms, but I have frequently seen them usher in attacks of scarlet fever and measles - In these cases there was little difficulty in deciding the nature of the convulsions as the specific affections were epidemic at the time - In one case where repeated convulsions had taken place all hope of saving the puny infant was abandoned. A cold water pack was ordered at once, but when seen eight hours after the child appeared to be dying. The eyes were fixed and glassy while the pupils could

be laid against the pupil without exciting the least reflex movement. The pulse could not be counted and the temperature stood at 104°F. in the axilla No nourishment had been taken for the last five hours.. I assisted the mother to wrap the infant up in a fresh sheet wrung out of cold water, and left saying that though nothing could be hoped for yet everything possible had been done and the child would probably die within an hour. Next day on calling to ascertain the sad ending of the case I was surprised to find the child quite lively in the mothers arms and covered from head to foot with a well developed rash of measles. Though still peevish and fretting she looked remarkably well & had taken some food. The case went on to a satisfactory ending.

Treatment The cold pack in this case had a most beneficial effect by abstracting heat from the body with a consequent lowering of the pulse. Besides thus exercising a calming influence the cutaneous nerves would be stimulated with a corresponding stimulation of the nerve centres. In this way the heart-

would be stimulated while the longer pause between its contractions would enable it to act more forcibly and overcome the great exhaustion produced by the fever.

In all cases attended with a high temperature I find sponging with cold or tepid water has a most calming influence frequently procuring sleep and generally lowering the temperature for the time being.

One case of acute Spinal meningitis has presented itself to me. It was ushered in by convulsions and a temperature of 103° F. There was some vomiting of a bilious nature & also constipation. There was no evidence of headache and the fontanelle remained natural × Convulsions took place at intervals for the first two days. The temperature remained at 103° F until the third day after which time it gradually fell, and then it was pointed out by the Grandmother that the child did not move the left leg. A more careful examination showed that both lower limbs were powerless and had also loss of sensibility so much so that the upper part of the foot was burnt against the bars of the grate the child showing no signs of pain - Reflex movement was

absent, and the muscles failed to respond to faradisation. At the end of a week he began to take light food well; and as all feverish symptoms had passed off he was allowed to the fresh air at the end of two weeks whenever the weather was suitable. After three weeks the induced current was applied daily for twenty minutes. Fly blisters were placed over the spine and rubbing of the limbs was practised. After three months the muscles showed no sign of atrophy and they responded fairly well to faradisation. The child could now move the large and second toes. At the end of three and a half months from the onset of the attack he was admitted an indoor patient in the children's Hospital Glasgow where he remained three months, and the matron informed me a few days ago that there was little improvement only the legs appeared firmer. He is inclined to stand on the outer aspect of the foot when he is put to the ground and supported between the hands. It is too soon to speak of the future of the case but deformities will almost certainly develop on account of the irregular action of the muscles, & these must be met as they appear

by the application of ~~fixed~~ mechanical instruments which will tend to correct these abnormalities

Remarks. At first I looked on this case as one of acute simple cerebral meningitis from the suddenness of the attack, and the fact that the boy was in blooming health when the symptoms began. Indeed he was exceptionally well developed, and what one would call an old fashioned child. But weighing against this diagnosis and in favour of tubercular meningitis was a bad family history - The mother showed a strumous scar on the neck, and was scarcely of average intelligence - One brother is dull and stupid. One cousin is imbecile and two brothers and one sister phthisical -

With these facts before me I could not put tubercular meningitis aside, only I had never seen that affection ushered in by convulsions - And weighing against its being a "head case" at all was the fact that the fontanelle seemed flat and natural, the pulse was regular though fast & there was no squinting of the eyes or inequality of the pupils - Although primary dentition was not completed the absence of any tooth

near the surface of the gum entitled me to set dentition aside as a likely cause. The discovery of the paralysis of the legs on the third day cleared up the diagnosis.

Twelve cases of cerebral meningitis believed by me to be tubercular have appeared before me. The ages of the children ranged from six months to eight years. Ten were female and two were male children. I have not taken up the cases in detail, but have utilised facts gathered from them mentioning the salient points. The cases were all typical and the three stages were very well marked. I have watched carefully the progress of these twelve cases. In three of them the onset was more or less sudden and there was no apparent falling off of the general health before the illness. In some the disease was pronounced when they were first seen. In four cases I was able to watch the gradual onset of the symptoms. These children first of all lost the merry laugh and romping nature and became listless. Gradually the face got pale and sad like, while the appetite began to be impaired. The body looked thin, and a slight dry cough made its appearance soon followed

by headache more or less continuous and more or less severe - Headache was common to every case - (Indeed the presence of headache, if at all paroxysmal in its nature, and in a delicate child or in one who has shown evidence of tubercle in the lungs or a tubercular or scrofulous history, makes me feel most anxious about the child -)

On the second or third day after headache appeared as a rule the temperature rose to 100°F. and at this time an irregular or intermittent pulse could be felt. In all of my cases this irregular or intermittent pulse was observed in the early stages showing that the head was suffering - The pulse, as is usual, in these cases, was rapid at first, subsequently becoming slower, and again getting fast in the last stage. I have experienced no difficulty in detecting the irregular or intermittent state of the pulse and have begun to look on it as the symptom in the early stages which enables the physician in attendance to see danger ahead, which enables him to warn the parents, and at the same

time permits early treatment with a possible hope of doing good.

In infants who were not able to speak restlessness, fretfulness, and rolling of the head were present, and often there was a desire to put the hand to the head which felt hot. Vomiting was present in every case in the earlier stages, but in one girl five and a half years old it lasted throughout the illness. There was nothing remarkable about the pupils. Dilatation took place when symptoms of compression set in.

In four of the cases where the patients were near enough to be visited three times daily very fluctuating temperatures were observed showing no resemblance to the slowly increasing temperature day by day of typhoid fever with its morning fall and evening rise. In only one case, indeed, was the question of typhoid fever discussed. In this case the child was ill for six days in the town of Ayr, and when the parents came to this district they sent for me under the impression that the child had typhoid fever. When seen her skin was dry and hot. Small hard cough existed, pulse was regular but rapid, pupils were dilated

There was Cheyne Stokes respiration, vomiting and constipation - There was no fulness of the abdomen, but pressure in the caecal region caused her to open the eyelids wide apart. only the expression was not one of pain. There was no enlargement of the spleen. Temperature was 102°F. It was a typical case of tubercular meningitis and she died on the seventeenth day -

In three of the cases seen an hour or two before death the thermometer registered 106°F.

In three the hydrocephalic cry was well marked. Squinting was observed in the greater number, but convulsions were not seen except in a very minor degree sometimes when trying to turn a child in bed a general tremor of the muscles was often apparent accompanied by slight squinting, rigidity of the limbs, closure of the hand with the thumb turned in to the palm, and extension of the foot. Cheyne-Stokes respiration was detected in all of them, but in the early stage the breathing was fast, hurried, often irregular and shallow. and accompanied by a

hard dry cough characteristic of lead affection. The state of the chest was satisfactory in all but four who suffered from bronchitis for some time prior to the meningitic attack.

Duration. I have been unable to form any opinion of the duration of this disease from the few cases seen by me owing to the insidious manner in which it comes on, and the difficulty of fixing its exact beginning. But judging as near as could be ascertained from the onset of the symptoms the average of my twelve cases was thirteen days. The following ~~are the~~ numbers give the length of time each one lived; 18, 17, 24, 10, 17, 6, 10, 6, 11, 15, 10, & 8 days.

Family history In every case there was a history of tubercular or scrofulous disease, either by the father's or mother's side of the house and sometimes by both. In two families acute meningitis has carried children off for three generations back.

Prognosis. All my cases ended in death, and so far as my experience guides me the only inferences I can draw from the course of the malady are, that these cases

are such as do not encourage hope.

Treatment. I tried all the medicines suggested in such cases these included Bromide of potassium, Iodide of potassium, Calomel, hydrate of chloralic. administered internally. Externally cold counter irritants in shape of flying blisters were used, and in the late cases the much vaunted remedy Iodoform made into ointment was well rubbed into the shaven scalp, the head being constantly kept moist with it. Milk food, beef tea, peptonised food and enemata of peptonised food were given as occasion required

Remarks On looking back on these sad cases I cannot recall a single instance where any medicine or other treatment adopted appeared to arrest in the slightest degree the fatal disease in its progress. I have not tried bleeding and do not feel the least inclined to adopt it as all who show marked symptoms are usually too pale & bloodless to admit of such a bold measure being resorted to I have arrived at the conclusion that the means employed possibly relieve suffering to some extent, but do not arrest

the disease in any way. And yet the difficulties in diagnosing tubercular cerebral meningitis may be so great that a case of simple meningitis may be put down as tubercular, and as the simple form is not always so fatal the duty of the physician is not to fold his hands and look on, but to be up and doing combating each symptom of the disease as it arises, and doing what he can to sustain strength by suitable food and stimulants through whatever channel they can best be administered.

The phenomena of pulse may not be constant, nor need the slow irregular pulse and dilated pupil necessarily mean effusion on the brain, but they certainly indicate serious mischief.

As bearing on the question of convulsions I desire here to introduce a case of trismus nascentium which came under my care in January 1884. And I must here confess that although I noted the facts detailed below when sitting beside the child, yet I could not understand the nature of the illness. On my return when reading over the case to my brother

he at once suggested that it was a case of the disease which killed so many children in St Kilda. And it proved to be so.

James Birnie Born January 7th 1884. On the sixth day after birth the cord separated, and from ten A. M. to one P. M. the child who was previously well, became very greedy and sucked a great amount. Fearing too great a quantity of milk had been taken the mother administered a teaspoonful of castor oil, and fearing the oil might be vomited she withheld the breast from the restless crying infant. In the course of an hour the bowels were freely moved, and then on trying the baby it was discovered he would not drink, as the jaws seemed fixed, but not closed tightly. The jaws kept in this state till 10 P M. when the arms got stiff the mother now declaring the child had fits.

I saw the child on the following morning at 7 A M. when the condition was as follows; the arms lay to the side, bent at the elbows, and fixed while the hands were clenched with the thumbs in the palms. Legs not so markedly rigid, but flexed at-

the Knee while the feet were slightly extended with the great toes a little apart. Eyes rather prominent and staring. Breathing laboured and suspicious. Frequent bearing down pains (possibly due to the oil which acted several times)

The head was bathed in perspiration while the body was only moist. The head was bent backwards while the body was opisthotonous to a marked degree. There was no shrieking at any time but marked tetanic spasms took place. The body was so rigid that it could be raised by a limb without altering the position of the limb laid hold of. On trying to open the mouth I failed, but could introduce my little finger which was held fast by the gums. But all interference with the child had to be abandoned as movement brought on tetanic spasms. He died at 4 P.M. or within thirty hours of the first indication of the illness

No postmortem was allowed but an outward examination of the child was made twenty four hours after death.

The face looked calm & blush. The body was quite supple. No inflammation could be seen round the insertion of the cord ~~but~~

Where the cord had dropped off had not healed up, but was ulcerated irritable giving out a watery discharge

Before concluding these notes on the clinical examination of children I must deal shortly with the pulse & respiration.

Pulse. The pulse of the child to be judged of to any real advantage must be carefully examined when the child is asleep or lying very quiet. Occasionally irregularity in the rythm of the pulse may be felt when the child is asleep. I have said elsewhere that the only reliable record of the pulse is got in sleep. But it is often found that a pulse which is irregular in sleep is perfectly correct in the waking state And this state of pulse can only be looked on with suspicion when other symptoms such as vomiting, constipation and severe headache accompany it. I have found it extremely difficult to count the pulse in the new born child even when asleep, and have found it impossible during the first year of life unless the child is perfectly quiet. The great delicacy of the pulse in early life and the rising and falling of the flexor tendons make it impossible often to perceive the pulse, much

less judge of its volume. When the child is awake or excited the pulse increases very much in frequency. I have not been able to estimate the difference in rate of the pulse in the sleeping and waking state, but I have as a result of careful observation in ten children not seven days old calculated an average of 102 pulsations per minute. During the first year of life in seven children I found the average to be 118.

Respiration. In health the child breathes thro the nostrils and there is no sound heard unless the ear is put quite near the face. The respirations should be counted in sleep and by the watch otherwise grave errors will be made. I have often looked at a child and thought he was breathing quietly but on counting found nearly forty respirations in the minute. In health the inspiration is continuous and gradual while the expiration is short and rapid. Then follows the pause. In children under two years of age the respirations are hurried and irregular on account of the weak state of the muscular apparatus. When disease encroaches on the breathing space the pause is shortened or seems to disappear altogether while the rate of

respiration is greatly increased. I do not possess enough reliable data to enable me to state definitely the average rate observed by myself in the child. But in counting the respirations I have always borne in mind that it differs at different ages. I have calculated thirty nine respirations for the first week or two; thirty five from two months to two years and after that time eighteen.

While I have found the respiration greatly increased in pneumonia & pleurisy I have seen it most rapid in capillary bronchitis where in one case it reached 120 per minute. In ordinary Bronchitis this great rapidity is not seen unless complicated with pneumonia. And yet in simple idiopathic pneumonia the respirations are not so very rapid In a boy four and a half years old I find it forty eight In another four years old I find it thirty nine nearly all thro' the illness. I have already referred to the character of the breathing in meningitis when writing on that subject.

Auscultation & Percussion

In account of the very great frequency of both lungs being affected in children it is more difficult to get comparative results than in the adult. Should both bases

be found affected the apex and base may be compared as in the natural state the base of the lung is much more resonant than the apex. Should this state of matters be reversed it is but fair to infer that something is wrong. It is frequently difficult to get a satisfactory examination of the chest and it is always well to begin with auscultation as percussion causes the child to be frightened. If the child cannot be got to lie on its face on the mothers' knees I generally allow the upright position to be assumed & give support with one hand in front placing the ear behind while the stethoscope is held out in front for amusement to the little one. In this way a fairly good examination may be obtained of the state of the chest behind, and this region is most particular for as a rule if the lungs are clear behind there is not much fear of the front. And yet in serious cases I always examine the front with the stethoscope carefully watching the apices. Percussion yields a much louder and more sonorous sound in the child than the adult, and great care and delicacy are often required to detect abnormal sounds. I generally find the light touch of the finger elicit

much more defined sounds than the stronger and sharper stroke. For a long time I was unable to detect the dulness of pneumonia on account of too much force being applied when percussing.

I shall not attempt a systematic description of bronchitis, pneumonia, and pleurisy, but shall dwell on the features in these cases which shall bear most directly on the treatment adopted.

Bronchitis.

forms by far the largest class of chest affections in the child, and the results are generally satisfactory. As a rule the bronchitic attack is preceded by symptoms of ordinary cold, the more severe chest affection afterwards developing itself. Instead of the ordinary cold giving way the skin gets hot and the cough tights and more frequent. The temperature rises pulse becomes rapid and the breathing fast & irregular. Rhonchus sibilant sounds are heard behind with an occasional crepitation. The child can sleep but frequently on waking there is difficulty in breathing from the accumulated secretions, but if coughing is set up it usually ends in vomiting giving relief for the time being. There is a great tendency

for perspiration to take place, and in the early stages there is great thirst although the tongue keeps fairly moist throughout. After ten or fourteen days the symptoms show signs of improvement, and the child soon gets well. On the other hand the cough may become more frequent & dyspnoea develop while complete inability to swallow may be noticed as the breathing is so rapid. Somnolence gradually steals on and death ends the scene. And again an ordinary attack of bronchitis may gradually develop into one of capillary or suffocative bronchitis and which is much more serious. Although I have rarely seen death in ordinary bronchitis yet I have I invariably seen it in the suffocative form., all the children dying before the seventh day. In this form all the ordinary symptoms are greatly aggravated the cough is short & weak, countenance livid & often anxious looking, pulse fast and feeble while the child shows no tendency to change his position but utilised all the time breathing Great dyspnoea may suddenly develop from accumulation of the secretions in the bronchial tubes or from this accumulation shutting off the air from part of the lung & leading to its collapse. In a child four months old

suffering capillary bronchitis the pulse counted 150 per minute, the respirations numbered no less than 120, while the temperature in the axilla was only 102.8°F. This state of matters was reached twelve hours before death.

I have not found difficulty in the diagnosis of bronchitis when uncomplicated but when complicated with pneumonia a day or two has elapsed before the diagnosis was cleared up.

Treatment

Here the greatest difficulty is encountered as the greatest number of children so affected are in badly ventilated small houses where one apartment serves the purpose of bedroom, kitchen and everything else. And when this is the case I try to impress on the mother the importance of keeping a uniform temperature, and to aid her in doing so I place a thermometer at the head of the bed insisting that she must keep up sufficient heat in the room to maintain the mercury at least up to 65°F. Next in order a screen is placed round the cradle or bed & cloths slightly wrung out of cold water are placed on it in front-

of the fire as suggested by Dr. Carmichael of Edinburgh - A sufficient amount of moisture rises from this softening the dry air inspired by the suffering child and thereby rendering the cough less troublesome. I find this to be an admirable method & easy of application - The chest is well rubbed twice daily with equal parts of camphorated oil and whisky which acts as a slight rubefacient. The whole chest is then enveloped in two or three layers of cotton wool. If the symptoms are more severe & there is evidence of pain in coughing linseed poultices containing one third mustard are applied for twenty four hours followed by the rubbing in of oil - Internally the wine of ipecacuanha, chloric ether, & camphorated water are administered as well as whisky toddy. Should the bowels fail to act properly an aperient is given & by relieving the abdomen of gas or the diaphragm is allowed full play with great relief to the little patient. Where great dyspnoea exists & where vomiting has not taken place emetic doses of ipecacuanha wine are given to clear the chest of the pathological secretions - In several cases of late where the lips were purple & the face livid ~~after~~ the

temperature standing at 103°F after thoroughly clearing the chest of mucus I had antipyrin combined with ipecacuanha powder administered in small doses with the most satisfactory results.

Pneumonia.

Idiopathic pneumonia is not infrequent in the child. It is I must confess often difficult to recognise in the very young infant, and frequently in the early days of my career I know that cases have developed and got well with remarkable rapidity without my ever being able to recognise the true state of matters. In this class of case I find the temperature rapidly rises to 102°F or 104°F remains so during the course of the illness with very little variation. Delirium especially at night is very marked, & this is to be borne in mind when differentiating between it and tubercular meningitis. The high temperature is a great guide to diagnosis even before any abnormal state of matters can be detected in the chest. The tongue is usually covered with a thick whitish fur while the pulse is rapid but regular. Respirations are rapid but not markedly so as in capillary bronchitis

For instance in one boy aged 4½ years I found respirations 48, pulse 144 & temperature 103°F. While in another aged 4 years respirations were 39 pulse 132 & temperature 102·6°F. As a rule after the second day the pneumonic crepitus can be heard, but in children it is not like the pneumonic crepitus in the adult but more of a subcrepitant rale. Percussion if lightly carried out will detect dulness. If the patient is over two years of age less difficulty will be encountered, & then in addition to the above symptoms a rusty sputum may be seen. Recovery usually takes place in crisis from the 5th to the 6th day.

I know no illness in which so satisfactory a recovery takes place as in pneumonia when uncomplicated, and it has been my good lot to see all my cases detected in children run speedily to a happy termination.

Treatment.

In Bronchitis I keep the temperature up to at least 65°F & not over 70°F and at the same time keep it moist & soothing. But in pneumonia I order the room to be kept near 60°F. and allow as great an amount of fresh air into the sick chamber as possible at the same time preventing currents of air

playing directly on the patient - I have not used any extraordinary measures other than hygienic in these cases - Once or twice when there appeared to be a good deal of pain in the side leeches were applied with apparently good results - But as a rule I leave them to their own course unless the temperature rise above 104°F. If the temperature rise above 104°F. I administe antipyrin with Ipecacuanha powder and have had the most satisfactory lowering of temperature follow its use. In addition sponging with tepid water and vinegar are used not only in the cases with high temperatures, but in all of them - Water was freely allowed to all & the diet consisted of milk - As soon as convalescence was established beef tea & stimulating food were given, & if necessary tonic medicines

I believe pneumonia to be like the specific fevers due to a specific cause, and that the disease runs a typical course. Hence my reason for allowing it to run on without any special treatment - While it is generally believed to be non contagious I am inclined to think otherwise - I have on more than one occasion seen one case of pneumonia followed by another in the same house, while one or two others took place in the same district -

And careful investigation did not show that they were exposed to the same source of danger. I have also been led to look on pneumonia as due to a specific cause and not a local lung affection from the fact that in several cases the pyrexia was present at least two days before any lung symptoms appeared.

Pleurisy.

On this subject I have very little to say. In my experience it is exceedingly rare in children under six years of age. Two years ago I met with one case of idiopathic pleurisy with a possible pneumonic element. The onset was most insidious. The mother thought the boy was bilious and suffering from slight headache. Led away by the mother who was usually so observant I prescribed a bile stimulant & made no further examination of the boy. Two days after I was asked to see him when I noticed he looked flushed & breathed faster than was natural while the face had a tired look. Just then he gave a characteristic hard dry cough. My suspicions were at once aroused, and the temperature taken when it was found to be 101.2°F. An examination of the chest revealed dulness at the left base which dulness

in the course of a few days extended until it reached the third rib. There was almost no cough, no expectoration, no pain and no perspirations. Friction was detected on the eighth day. Egophony was very distinct at the angle of the scapula while tubular breathing and increased vocal resonance were heard above that point. At the base the respiratory murmur was absent as were also vocal resonance and fremitus. There was no displacement of the heart. The temperature ranged from 99.8°F in the morning to 100°F & 101°F in the evening On the 11th day he was seen by Professor Gairdner who confirmed the diagnosis. At this time improvement began to take place & he travelled to the South of England. When seen six months after a careful examination of the chest showed no trace of the disease.

Treatment

Flying blisters were used to check if possible the onward course of the disease but the result was doubtful. Quinine was given to check the temperature & later on Iodide of Potassium & tincture of digitalis were administered to promote absorption of the fluid in the chest.

This was an idiopathic case of pleurisy in which absence of pain and cough were

so marked that it might well be called silent pleurisy - The absence of pleurisy in infants under my charge is very astonishing - this being the only case I can find in my case book -.

And now in submitting my paper to the examiners I trust they will take into account the very great difficulties under which a country practitioner labours - One very important part is awanting viz the state of matters as seen after death - Since graduating in 1880 I have not seen one post mortem conducted.

I D.

Broomhill
June 11th 1887