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Observations on some dangers  
incident to Infant life, also the  
description treatment & results of  
a Case of imperforate Rectum

The purpose of the following paper is to  
describe some of the prominent  
dangers attendant on infant  
life with special reference to a  
rare & puzzling clinical mal-  
formation met with in newly born  
Children. My attention was particularly  
attracted to this subject from the  
occurrence in my own practice of  
a case of imperforate Rectum  
which I published in the Transactions  
of the South Durham & Cleveland Medical  
Society & which I now reproduce here  
under the second head of my subject.  
This case I published in the Transactions  
for September 1875-76.

The dangers incident to infant life  
may be divided into two chief classes -  
1<sup>st</sup> Those dangers dependent on circumstances  
& conditions external to the child. 2<sup>d</sup>  
Those which are the result of disease  
or imperfect formation in the child  
itself at the time of its birth.

I. Those dangers dependent on circumstances  
& conditions external to the child -  
The utter helplessness of infancy has



always been regarded as one of its strongest Claims on the protection of others than those whom feelings of natural affection & duty prompt in the case of their own offspring. In ordinary life we abundantly see the fostering care of the mother displayed in her anxiety for the welfare of her little one & so strongly is maternal love implanted in the female breast, that in circumstances of danger the mother hesitates not to sacrifice her own life to save that of her child. Incidents in the histories of nations & individuals afford ample proof of this fact, and so universal is its application, that among the lower animals the spoiler only succeeds in reaching the young through the gland body of the mother. That such a solicitude as this should ever miscarry in its object, at first, seems far from probable, but no one who has attentively pursued medical practice for any length of time, can fail to have observed that the excessive zeal of the mother in promoting what she considers the health & wellbeing of the child has not infrequently been the cause of its serious illness & may, even of its death itself.

From this we may perceive that a mis-directed zeal may be as disastrous in its results as the opposite extreme of criminal neglect.

The two essentials to healthful growth in infancy are first, Suitable diet & secondly, warm clothing with of course the greatest part of the twenty four hours spent in sleep. A departure from the above would constitute errors in diet & errors in clothing.

### Errors in diet.

When we consider the simplicity of Nature's indications in this most important matter, it is a cause of wonder how many Mothers and others having the care of children should so frequently transgress her laws, & yet how many of the illnesses of childhood are directly traceable to indiscretions in diet. Many fond mothers as they watch with maternal pride, their infant from day to day increase in weight & strength

think that if the Child does so well on fluid food - milk - how much more rapidly it would grow if the Child's diet were supplemented with something solid. This notion arises a good <sup>deal</sup> among certain classes from an idea which obtains, that milk in itself is not sufficient to sustain life; in fact they do not at all look upon milk in the light of food, & they accordingly think that the sooner an infant begins to eat what to their minds is worthy of being considered food, that the sooner it will come to resemble themselves in proportions & stature. This of course arises from an utter lack of comprehension of the Child's real wants, and the consequence is that the delicate digestive apparatus, often at the end of the second month, is taxed with work which Nature never intended it to perform before the seventh or eighth.

The consequences of such a disregard of Nature's laws soon become evident. The Child which before was joyous and crawling during its waking hours now becomes dull and irritable; the bowels instead of acting regularly become distended with flatus and are alternately relaxed and confined, the skin becomes hot & dry & the Child altogether is feverish and restless. The chances are that unless medical aid is sought soon matters go on from bad to worse until they reach a climax by the Child having a 'fit' or a rapid succession of fits; which latter manifestations to the generality of parents, are very alarming & medical aid is usually sought in hot haste. When the medical man has succeeded in tracing convulsions to the cause set forth here the treatment is very simple - getting rid of the offending material by the administration of a suitable purgative. This is the curative treatment but it is also the duty of the medical man to indicate a prophylactic line of conduct for future guidance. viz that the mother will simply feed the Child on her own breast milk, or if that is insufficient that it be

Supplemented with Cows' Milk diluted one fourth part with warm water, and that this regimen is not to be departed from till nature begins to indicate that a change in diet is required by the appearance of machinery - the teeth - suited to prepare solid food for digestion.

If mothers and nurses would only be guided by the above simple rule, many weary nights and laming days would be saved to suffering babyhood and harassed adult age.

For some time after an occurrence such as I have indicated, the mother is usually very attentive to the medical instructions, but by degrees, the scare produced by the child's illness fades from her mind; she begins again to compare notes with other mothers, when she again overtakes the child's digestive system, to be again possumed or later followed with similar consequences. That this system is not confined to one class of people must be the verdict of most practitioners.

### Errors in Clothing

Among the lower classes, every year, many children are unfortunately sacrificed to diseases of the respiratory system caused in nearly every case by the scantiness of attire: the parents being unable to provide their children with warm and suitable clothing; this inability whether their misfortune or their fault, from its extensive prevalence has always contributed to swell the otherwise sufficiently great rate of infant mortality.

If it were fixed as a principle of our national economy, that only the fittest or in other words the strongest, should be encouraged to survive, it is plain that the circumstances among which thousands of the inhabitants of our large cities are born and reared are already carrying it out in practice; for where the weak or Cachectic child may appear to keep tolerable pace with his originally more healthy companion

when the conditions of insufficient food or unwholesome atmosphere alone are concerned, he so to speak, when it comes to be a question of which is the more likely to weather an acute bronchitis, or croupous attack, succumbs without an effort.

Let us now turn to more favoured circles in life. Among these we not infrequently hear comments on the ruddy and beautiful appearance of the children of their poorer neighbours, which have been brought up under conditions so unfavorable, when compared with their own. This fact they ascribe to the less favored children having undergone, what they are pleased to style a hardening system & as it seems to have borne such good results in the hands of their neighbours, they conclude that it must be equally happy in its consequences, if applied to their own children. They forget or do not know, that the healthy specimens presented to their view, have been winnowed from a majority of weaklings, that in the struggle for existence, have gone to the wall.

The class of people here referred to as ambitious of rendering their children hardy, adopt a method very much modified from that in which the samples that excite their admiration have been reared; so much so indeed that to the eye of a person inexperienced in children their management and dress there might not appear to be equal to call for remark between the dress of a child whose parents entertain strong opinions on the benefits of early hardening, & that of one whose parents are content to wait till the child has reached an age, when changes to lighter clothing, may be counterbalanced in their attendant risks, by the power which the child then possesses of generating heat in its own body, by the tissue waste consequent on locomotion & other acts of life. So the practised eye of a judicious mother the difference in the two systems of clothing is

evident at a glance, & altho' in its adoption its advocates have reduced it to such dimensions as not to attract the attention of the inexperienced or unobservant, its total abolition is demanded in the interests of infant humanity.

To appreciate correctly the extent to which parents err in thus too early attempting to secure for their children a habit of body that will condemn the ordinary weaknesses incident to life, let us try to sketch how a child should be clothed in infancy & early childhood & then briefly point out in what important particulars believers in an opposite system differ from the rules laid down.

A description of the clothing suitable for infants is well given by Dr. Parrhill in his book on Diseases of Children Page 46 to 49, where he says.

"A broad binder of fine soft flannel is first swathed firmly, but not too tightly, around the child's body & then comes a little shirt of lawn or French Cambric. Couche & others recommend that a flannel dress should be always next the skin but this appears unnecessary, at least in this country, and it is certainly more apt to irritate the delicate skin of an infant, and unless it be changed every day, as the inner garment of the infant ought always to be, it is much less cleanly. After the shirt will come long flannel petticoats and other articles of dress of divers fashions, according to the custom of the country, and lastly, the frock of Gode. All these should be long, easy & warm, so as to protect the infant from cold, & yet leave it as much freedom of movement as is necessary. The sleeves of the frock should also be long. As far as possible the dress should be fastened with strings instead of pins; and when the latter are indispensable, large pins are better than small ones, as being much less liable to fall out or prick the child. Some authors have recommended that the infant

Should not wear a cap, & some time ago this practice became for a short time the fashion; experience however has proved the folly of this attempt at depriving natural laws to gratify a theoretical prejudice. In this & similar way, I dare say, a race may be hardened, but it is by cutting off the weaker members.

The cap should be made of warm soft material, fitting nicely so as not to press upon the head, & in tying it care must be taken that the string neither chafes the skin or impedes respiration. As the infant grows older the material may be lighter, until at six or eight months, if the weather be mild, it may be laid aside altogether!!

The chief points in which the dress of a child, whose parents believe in early hardening, differs from that of one whose parents follow the more rational plan as set forth here, may be summarised as follows — shortness of the frock, sleeves & petticoats with entire absence of the soft woollen cap.

The miserable mistakes made every day in life, by parents who thus unwisely act may be readily imagined, and the practitioners among children will find the same diseases recur again and again from the same causes, not by the neglect but by the overanxiety of the parents to attain results that ought to be waited for with patience. Errors in diet are much more common than errors in clothing & the difficulty of suppressing the recurrence of the former class of mistakes is much greater than that experienced in dealing with the latter.

## II Dangers which are the result of disease or imperfect formation in the child itself at the time of its birth.

I here purpose confining myself to those dangers which occur in the anus and rectum & append the case of imperforate rectum which occurred in my own practice.

For most works on Surgery the malformations that occur in this region are classified as under — 1<sup>st</sup> The anus may be closed by a thin membrane, the rectum being

perfect. in such cases the membrane may project from distension with mæconium. 2<sup>d</sup> The rectum may terminate, and inch or so above the anus, here there is no projection visible & the case now is not so simple, as in the first example 3<sup>d</sup> Sometimes the intestine does not descend lower than the upper part of the sacrum 4<sup>th</sup> Occasionally the colon terminates in a Cul de Sac the rectum being entirely wanting. 5<sup>th</sup> In any of these cases there may be an attempt to afford relief naturally, by an opening into the bladder or urethra in the male or the vagina in the female.

The diagnosis & treatment of these malformations increases in difficulty with the complexity of the case. In a case where the anus is closed & the membrane is visibly pushed down by the mæconium pressing from above, the treatment is very simple and as a rule satisfactory - making a crucial incision through the bulging membrane & afterwards keeping it open by means of a bougie, or firm elastic catheter. In a case where the intestine does not descend below the upper part of the sacrum or where the colon terminates in a Cul de Sac & no rectum is present, the difficulty in diagnosis is so great & the chance of prolonging life by operation so small, that some surgeons have doubted the advisability of operative interference. I have here contrasted two extremes. I now proceed to give my own case. When I published this case in the Transactions of the South Durham & Cleveland Medical Society I intitled it a case of imperforate anus but it is really what I now style it, a case of imperforate rectum.

On the 9<sup>th</sup> of May 1875, I was called to see an infant that had been ailing for five days. On making enquiry, I found that it was only five days old and that the object in seeking my assistance was, if possible, to afford it relief, as it had no passage by its bowels since its birth. The conditions present on my first examination were as follows:-

To find a distension of the abdominal  
parietes, that they had quite a membranous  
appearance; the course of each small vein  
& artery being quite an anatomical  
demonstration to the eye. The child  
had begun to vomit black matter, which  
looked like meconium.

The mother of the child informed me  
that it had sucked for the first two  
days, but afterwards only occasionally,  
& with no degree of vigor.

On examination of the rectum, by the  
little finger, I suspected there must be  
an obstruction of the gut not very far  
from the anus, and was confirmed in  
this opinion from the fact that on in-  
jecting fluid into the rectum found an  
elastic bag everted. I found each im-  
pulse directly returned.

I sent the child half a grain of Dover's  
powder, it being very restless, and called  
on my friend Dr. Malcolmson.

Dr. Malcolmson accompanied me to  
the house, made an examination of  
the child, and came to the same con-  
clusion in his diagnosis, as I had done.

After considerable cogitation, we  
resolved to perforate the obstruction,  
which we did by introducing a trochar  
& canula into the anus, as nearly  
as we could judge the situation of  
the obstruction was one inch from the  
external opening.

On withdrawing the trochar meconium  
was discharged freely through the canula,  
and in ten minutes from the effecting  
of the perforation there was a very  
considerable quantity of meconium &  
other contents of the bowels passed.

On withdrawing the canula from the rectum  
we introduced a three bladed dilator, such  
as is used for dilating the female urethra,  
and opened the blades so as to effectually  
break up the membranous septum  
which had so completely prevented the  
passage of the contents of the gut.

After this the abdomen came to a  
natural size, and in a little time  
the child sucked well, and retained  
what it did suck. Since then the bowels  
have been acting regularly & well, but  
without any ostensible cause the

abdomen swells & becomes membranous for a few days, & then again returns to its normal size. This state of affairs has gone on until I was that it has arrived in its twelfth month, & is evidently entering on its dentition. It has hitherto had no food, but breast milk. I believe the swelling, leeches & poultices are applied to the abdomen, and occasional small doses of Dover's powder to allay the irritability.

The above is the case as communicated to the South Durham and Cleveland Medical Society.

This case went on & did well, the child passed through the period of dentition without any alarming manifestations, & partook of spoon food suitable to its age with the happiest results, as evidenced by its increased weight & healthy appearance.

In this way matters progressed till about the thirteenth month when I had ceased to think about the case. One day about this time a relative of the child's father came to tell me that the child had taken fits suddenly in the night & only survived the arrival of the nearest medical aid for a few minutes. I tried every means of persuasion to be allowed to perform a post mortem examination of the body, but the widespread objection to this proceeding commonly met with, operated effectually against me, & the immediate cause of so sudden a denouement to this interesting case will remain shrouded in the region of conjecture.

The explanation of these formations in the rectum is to be found in the fact that the anal portion of the bowel is developed independent of the upper portion, the two parts subsequently advance & in a natural condition become united the membranous septum or diaphragm at the point of junction, at a later period disappearing by a process of interstitial absorption. When both portions of the

lower advance or far as out to be separated by a septum, we have cases such as the one I have described produced, but when the failure occurs at an early period, the two ends of the approaching tubes will be far distant & we will find the various kinds of malformation result.

The Surgeon is usually consulted early in cases where danger arises from malformation or imperfect development, more particularly if it cause obstruction of an important canal, the probabilities of successful interference often depend on earliness of detection & intelligent co-operation on the part of the parents afterwards.

In concluding this paper I have only to add that the difficulties that surround the treatment of infants in every day practice, altho' trying to the patience of the physician or surgeon should only serve in cultivating habits of tact & perseverance, in imparting instructions to parents relative to the treatment of their children so that the medical man may have the highest satisfaction his labors can yield viz. to see a healthful race of boys & girls enjoying the first & chiefest blessing of existence - good health.