

# An Alternative Approach to the Treatment of GIT Disturbance in Infants

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What usually constitutes GIT disturbance?

The three most commonly accepted states to consider are:

- (a) Colic
- (b) Lactose Intolerance
- (c) Gastro Oesophageal Reflux (GOR)

Colic is the popular term used almost universally to describe unsettled behaviour in infants. This usually refers to bouts of seemingly inconsolable crying due to gastro-intestinal pain, which may be accompanied by abdominal distention (with flatus), vomiting, copious and loose stools and a tendency to draw up the legs.<sup>1</sup> It usually resolves spontaneously at about 3 months of age. Parents need reassurance and practical suggestions on how to plan around the sessions of periodic crying which usually have a set time; the most characteristic being in the early evening.

Lactose intolerance, (often diagnosed in the clinical setting by virtue of testing faecal pH and faecal reducing sugars or by the breath hydrogen test; but only truly diagnosed through a biopsy of the small intestine) manifests with chronic diarrhoea and a failure to thrive.<sup>2</sup> In this situation the stool is characteristically frothy, watery and passed with much flatus. It is due to an inability to digest lactose, which is the primary carbohydrate in milk. The lactose levels in human milk are higher than in most other mammalian milks, the sugar being hydrolysed by lactase- phlorizin hydrolase, an enzyme in the small intestine. This enzyme develops in the neonatal gut mainly throughout the last trimester. By 34 weeks gestation, lactase activity is approximately one third that of the full term infant reaching 70% of full term level by 38 weeks' gestation.<sup>3</sup> Congenital lactase deficiency is extremely rare and is inherited as an autosomal recessive gene. Symptoms, therefore, are most likely to occur in premature infants or in those who have had undergone a bout of excessive peristaltic activity.

With either of these two conditions, the Lactation Consultant (LC) can offer assistance by suggesting feeding protocols such as timed and/or evenly spaced feeds designed to reduce excessive intake of milk and upright feeding positions. Encouraging the mother to allow the baby to 'finish the first breast first' increases the fat intake, which tends to reduce gut motility.<sup>4</sup> This management technique is most effective when accompanied by dietary advice aimed at increasing the intake of mono and poly-unsaturated fats. Similarly increasing protein and complex carbohydrates at the expense of simple carbohydrates has been shown to decrease the lactose levels in human milk and, along with that, the common symptoms of lactose intolerance.<sup>5</sup>

Parents appreciate also the practical advice and support offered by community groups such as NMAA (Nursing Mothers Association of Australia) and VISA (Vomiting Information and Support Association) who call upon a wealth of experience to share with parents thus assisting them to survive those early difficult weeks.

Gastro-oesophageal reflux is described as a pattern of consistent regurgitation leading to distress after feeds. In severe cases it may lead to apnoea, pneumonia, failure to thrive and anaemia.<sup>6</sup> Oesophagitis has been associated with candida and herpes.<sup>7</sup> Mapping of a gene for severe paediatric gastro oesophageal reflux to chromosome 13q14 was published in the July 19, 2000 issue of *The Journal of the American Medical Association* where it was described as a common medical problem affecting one in 20 babies.<sup>8</sup>

In the general population oesophageal reflux has been assessed as being prevalent in 4% of the population. Notionally it shouldn't occur because of the presence of the lower oesophageal sphincter. Strictly speaking this is not so much a physiological entity as a zone of high pressure, which is maintained just above the gastro-intestinal junction. Normally this area has a high resting tension, which prevents or inhibits reflux. The sphincter usually relaxes once the peristaltic wave arrives. It is controlled by nervous and hormonal mechanisms. In adults this oesophageal pressure may be lowered due to cigarettes, alcohol, fat, caffeine and perhaps obesity. 9

However, it is acknowledged that a persistent pattern may occur in the first year of life due to a functional immaturity of the lower oesophageal sphincter leading to episodes of inappropriate relaxation.

A short intra-abdominal length of oesophagus as occurs in babies, probably also contributes to the problem. Also increased abdominal pressure resulting from fermentation in the small intestine due to problems coping with the daily lactose load in the still maturing gut can be a significant factor. This tends to be exacerbated by the tendency for the baby to draw up the legs in response to pain. It is recognised that lying down also enhances intra-abdominal pressure. This becomes somewhat of an occupational hazard for pre-ambulatory infants. In those cases where the mother has a problem with copious supply and/or a vigorous letdown, the peristaltic wave tends to be enhanced giving little time for the sphincter to self-regulate appropriately.

By 12 months nearly all symptomatic reflux resolves spontaneously probably due to a combination of maturation of the lower oesophageal sphincter, assumption of an upright posture and the inclusion of solids in the diet.

Current paediatric protocols include:

- \* reassurance
- \* avoidance of over-feeding
- \* maintenance of a 30 degree head up prone position after feeds
- \* placing baby on the L side (in a sling) with mattress raised for sleeping
- \* antacids such as Gaviscon. Such alginate preparations form a gel on the surface of the gastric contents thus preventing reflux in the upright position.
- \* feed thickeners such as Carobel
- \* early solids
- \* histamine receptor antagonists which lower production of acid and pepsin such as Cimetidine
- \* dopamine receptor antagonist drugs which increase the contraction of the lower oesophageal sphincter as well as promote gastric emptying, such as Metoclopramide. Metoclopramide does not promote gastric secretions.
- \* Cisapride stimulates acetylcholine release in the myenteric plexus in the upper GI tract. This raises oesophageal sphincter pressure and increases gut motility. Side effects may include diarrhoea, abdominal cramps and tachycardia. 10

Lawrence suggests that the successful use of Metoclopramide in alleviating the symptoms of oesophageal reflux can be considered as being equally confirmatory [as an endoscopy] for the condition.<sup>11</sup> However, most paediatric texts advise 24 Hr ambulatory oesophageal pH monitoring, endoscopy and barium studies to rule out underlying anatomical abnormalities in the oesophagus, stomach and duodenum.<sup>12</sup>

In an attempt to minimise possible GIT disturbance in neonates, research, which offers possible screening assistance, is now beginning to appear in the lactation literature. Most of this revolves around the role that allergy plays in gastro-intestinal morbidity. Early studies have established that up to 50% of newborns presenting for paediatric assistance have a family history of allergy and have established the concept of a recessive mode of inheritance.<sup>13</sup>

Other studies have determined elevated levels of IgE in cord blood as early as 11 weeks gestation and cord serum total IgE levels of greater than 100U/ml are associated with 5 to 10 times greater risk for allergy than those of lower levels. In particular, cord serum levels of IgE above a level of 0.7 U/ml are significant predictors of subsequent allergy.<sup>14</sup> Enhanced hemagglutinating antibody titres against lactalbumin and soybean have been detected in amniotic fluid. It has, therefore, been suggested that assessment of the amniotic fluid may also be a reliable predictor of possible allergy.<sup>15</sup>

Human milk contains a plethora of immunologically and pharmacologically active components and hormones, which offer a significant level of protection to the developing neonate. The immunoglobulins, particularly sIgA, afford quite specific protection. At birth, when the neonate is most vulnerable to infection, the levels of sIgA in colostrum are three times higher than those found in mature milk. They persist, however, at significant levels throughout the lactation rising slightly (along with lactoferrin and lysozyme) during weaning. They provide protection against a range of bacterial and viral assaults. However their levels are influenced by maternal exposure to antigens and reflect the antigenic load in her gut. One study has been published correlating low levels of sIgA in colostrum with subsequent cow's milk allergy.<sup>16</sup>

Dietary antigens most commonly associated with an allergic response evolve from cow's milk, eggs, fish, beef and peanuts, and avoidance of these during pregnancy and lactation has demonstrated a protective effect against eczema.<sup>17</sup> A published case study has similarly demonstrated, by means of an intestinal permeability test, an improvement in the clinical picture and test results in a one month old exclusively breastfed infant with symptoms of GOR with the removal of pork and egg from the maternal diet.<sup>18</sup> Another case of a 21-day-old infant diagnosed with colitis associated with numerous eosinophils demonstrated improvement when the mother totally removed all dairy products from her diet. When subsequently challenged with expressed breast milk (EBM) collected before the dietary restriction and stored, the baby went into profound shock.<sup>19</sup>

Clinicians such as myself who place value on this research tend to develop strategies to reduce allergenic load through environmental manipulation emphasising restrictive dietary protocols and promoting exclusive breastfeeding. As a classical homœopath, however, I have a unique perspective as a clinician based on over 200 years of proven clinical experience. According to WHO data, Homœopathy is second to Traditional Chinese Medicine as the most widely used medical modality in the world today, encompassing a perspective, which invites a consideration of treating dis-ease from a Holistic rather than Cartesian perspective.

Western research has suggested a genetic connection to GORD, which is possibly complicated by allergy (particularly to cow's milk proteins). This is consistent with the homœopathic perspective offered by the *Miasmatic Theory of Disease*.

In *The Organon of Medicine* written and re-written by Dr Samuel Hahnemann six times during his long lifetime, the basic tenets of homœopathic medical philosophy are most succinctly outlined. Hahnemann deduced (in the days before invention of the microscope, let alone the mapping of the human genome) that the inability for an organism to fully respond effectively to well-chosen remedies was due to some type of inherited flaw, which he termed a miasm (meaning a fault).

In his writings he named three miasms: the Psoric (based on a family history of psoriasis); the Syphilitic (based on a family history of syphilis) and the Sycotic (based on a family history of gonorrhoea).<sup>20</sup> Since his death two more miasms have been defined, the Tubercular and the Cancer miasms.

All of the miasms play a part in GIT pathologies. However, it is the Tubercular miasm, which is most relevant, and perhaps most easily recognised by western medical clinicians. Individuals who have a familial genetic link to tuberculosis display a well-recognised physiognomy and a tendency to present with a certain clinical picture.

Midline abnormalities are common. This may present as: a cleft in the chin or nose; a tongue-tie; a cleft, arched or bubble palate; a narrow or sunken chest (pigeon-chest) or a neural tube defect such as spina bifida. Individuals with tubercular miasm often have a well-defined gap between the front teeth. This is common in infants, so it is a good idea to observe the parents in this regard. The mother of a tubercular type usually has a well-defined linea nigra during the pregnancy and often has a return of menses within 6-8 weeks in spite of breastfeeding.

Tubercular individuals tend to have a “china doll” appearance with a round face, pale translucent skin, bright eyes and long, soft, glossy, curly eyelashes and thin lips. Astigmatism, strabismus and weak accommodation are common eye problems.

During a fever, they may present with one pale cheek and one red cheek. However, two well-circumscribed red cheeks are a more common presentation.

There is often a bluish tinge to the sclera or a blue ring around the eyes and maybe a prominent blue vein across the root of the nose.

Tubercular babies suffer from recurrent otitis, and hearing problems can ensue due to a tendency for the adenoids to enlarge. Tonsillitis is also seen as a re-occurring pattern. Hayfever, asthma and eczema are prevalent in the family tree. Perspiration across the nose is common, and toddlers and older children are prone to nosebleeds.

Head colds are prevalent often due to a susceptibility to a change in weather. The lowered immunity, which enhances this susceptibility, is due to milk allergy. A craving for, and aggravation from, milk is a big keynote for this miasmatic type. In common parlance the tubercular type tends to “make mucous” from milk intake. In babies, the presence of soft curds in the stool is a sign of an inability to tolerate cow’s milk proteins in the maternal diet. Phosphates in the urine, which appear as red crystals in the nappy, are another definitive tubercular sign.

Often the skull can be misshapen as if the sutures had closed too early, and the hair is very fine and has a tendency in adults to split easily. Tubercular babies are usually born with a fair amount of hair which tends to be dark, and they often have a lot of downy body hair at birth, which later falls out. Common sites are on the tips of the ears, across the shoulders and upper back and on the sacrum. It is this fact, which has given rise to the old-wives’ tale that hairy babies tend to be colicky. Re-occurring bouts of hiccoughs in utero is another reliable sign that the baby will be colicky. In light of recent research, this piece of folk wisdom can possibly be explained away as a reaction to antigens in maternal plasma. Personally, I have observed this phenomenon to be more prevalent in those mothers who, for one reason or another, have consumed large amounts of milk during the pregnancy in attempt to boost calcium intake. The bones of oily fish, nuts and seeds and green leafy vegetables provide suitable dietary alternatives.

Tubercular babies may also be born with teeth or produce teeth during the first month of life. They tend to teeth badly. By that I mean they often succumb to an illness during teething episodes. The teeth may be crowded, misaligned or serrated and, with toddlers, be so adherent that they need to be pulled to make way for secondary teeth. Almost all Tubercular babies will grind their teeth. Early dental caries is a feature of this miasmatic type as is bad breath.

The nails tend to be weak or brittle and have a spatulate shape and a spooned appearance. Tubercular types are more likely to produce white spots on the nails and to develop ingrown toenails. Foot perspiration can be profuse and offensive. Clammy hands are a keynote.

They suffer from night sweats, particularly around the upper torso and/or head. Strictly speaking, in babies, this keynote may appear each time they are put down to sleep. The head sweats tend to occur within the first hour of going to bed and tend to have a particularly characteristic sour odour. These babies can be restless sleepers and may be irritable on waking or may cry out in their sleep. When small they will tend to sleep on their backs with their arms above the head. As they become more mobile, they often prefer the knee-chest position. Sycotic types also favour this sleep position.

Next to craving milk, toddlers will demonstrate a preference for salty and smoked foods. Particular favourites are ham, bacon, salami and baked beans. This type has been known to eat salt alone from a dish. They may also show a preference for indigestible things such as dirt, clay, chalk or their own dried nasal secretions. They can be hungry. However, due to the high metabolic rate and tendency to emaciate of the tubercular type, weight gain is slow and they tire easily. Physical exertion is likely to bring on wheezing in some individuals.

Toddlers and older children are usually very fearful of animals especially dogs or cats and may develop urticaria from animal dander. Eczema is a common problem for this miasmatic type, and may be present from birth. They also have a tendency to develop ringworm particularly on the head.

The head is a very sensitive area for babies who belong to this type. They are prone to meningeal irritation subsequent to fevers. They are often head-bangers or may develop an annoying habit of emitting an almost semi-constant high-pitched trill or squeal, which produces a similar reverberatory effect in the head.

Mental/emotional characteristics for the Tubercular type are not so well defined in babies. Restlessness and irritability are, however, reliable symptoms. With the toddler these characteristics are more marked. During the consultation, the clinician observes an inability to sit still bordering on hyperactivity, as the movements tend to be aimless and random. Toys do not hold the attention for long.

Easy boredom is a big keynote, which continues into adulthood. In some texts it has been described as a “vagabond mentality”.<sup>21</sup> Tubercular types tend to hold the view that “the grass is greener on the other side of the fence”. They therefore, tend to move on easily. This can be from relationship to relationship, job to job or country to country. They love to travel, and it’s interesting to note that the significant rise of tuberculosis as a disease began during the Industrial Revolution which saw mass migrations of people from the country to the cities (crowded housing and poor sanitation notwithstanding) and from continent to continent as sail power gave way to steam.

Tubercular toddlers may be plain contrary, stubborn and un-cooperative. They may also display an aggressive streak and may hit out or bite family members or others. This behaviour may also extend to animals. They may also be little “daredevils” who love to climb and show little fear when finding themselves in dangerous situations, which would normally require a certain amount of circumspection.

They can sometimes display a sense of lack of care and selfishness concerning others and their property and plans. On the other hand, they may be extremely shy and withdrawn and be very fearful of being left alone or of facing new situations.<sup>22</sup>

The most well defined anti-tubercular remedies are:

*Abrotanum; Arsenicum Iodatam; Baryta Carb; Calc Carb; Calc Phos; Carbo Animalis; Lycopodium; Phos Ac; Phosphorus; Sanicula; Silicea; Sanguinaria; Stannum Metallicum and Tuberculinum.* <sup>23</sup>

However, the treatment of GIT disturbance is not necessarily confined to these remedies alone. The classical homeopathic approach is to assess each patient individually, and then select the appropriate Simillimum from over 2,000 remedies contained in the *Materia Medica*.

There are various hands-on modalities, which can offer another type of assistance to babies in distress. These include: Massage (perhaps with Aromatherapy oils); Bowen technique; Chiropractic or Osteopathy. If the birth has been, in any way, traumatic, any of these modalities are worthy of consideration.

A naturopathic approach to GOR would, on the other hand, concentrate on improving digestion. A grand elimination diet wouldn't be suggested during lactation. However, removal of cow's milk and/or soy proteins from the maternal diet does much to improve the clinical picture. Increasingly wheat is also seen to be problematical and a naturopathic approach would consider using a blood type diet. Without going into too much detail this dietary approach is based on the notion that blood types O and A are the earliest recorded blood types. Type O is referred to as the cave man blood type, while type A evolved during the period of settlement along the Tigrus and Euphrates rivers. Neither of these blood types tolerates dairy or wheat. <sup>24</sup>

Another effective naturopathic approach to settling gut inflammation is the use of *Ulmus Rubra* or Slippery Elm Bark, which may be administered quite safely to the baby. In King's Medical Dispensary (the pharmacopoeia of the American Eclectic Physicians from the last century), Slippery Elm is described as "a nutritive, expectorant, diuretic, demulcent and emollient which is a very valuable remedial agent in mucous inflammations of the lungs, bowels, stomach, bladder or kidneys when used freely in the form of a mucilaginous drink". <sup>25</sup>

Its' use today is relegated primarily to treating the gut because of its mucilaginous properties. It enjoys much success as a method of treatment for worms and dysentery when used aggressively as a gruel. However, for babies it can safely be given in the form of a thin paste mixed with EBM and administered by spoon from an eggcup. In those cases where familial eczema is a feature and salicylate sensitivity may be a problem, it is best to first mix a good pinch of the powder to a firm paste with boiling water and then add EBM when cooled. It tastes like dirt and tubercular babies tend to like it. It goes straight through the system and renders the characteristically watery stool of a baby with GIT disturbance, markedly thicker.

In those instances when early solids or feed thickeners are being considered, Slippery Elm Bark is a safe, effective alternative based on over 100 years of proven clinical experience. In those instances where gut problems arise after antibiotic use, I prescribe a pinch of Slippery Elm Bark mixed with boiling water and then thinned out with EBM, three times a day for three days followed by a few doses to which a pinch of bifidus powder has been added.

In keeping with Hering's *Law of Cure*, which states that disease symptoms have a tendency to move from the top down and from the inside to the outside, as gut inflammation begins to settle, often the skin aggravates. As well as using the appropriate homeopathic Simillimum, I find that it is often useful to consider the removal of salicylates from either the maternal diet if baby is not yet on solids and from the baby's diet when treating an older baby. Mothers who consume large amounts of tea can find it may aggravate a baby's skin, particularly in those instances where the familial miasmatic picture is Sycotic. Common salicylates include: oranges; pineapples; grapes; berries; melons; dried fruits; apricots; plums; tomato products; capsicum; zucchini; almonds; honey; liquorice; vegemite; herbs and spices; wine and some spirits; tea and peppermint tea.

Amines may also have to be removed from the diet. These include: cheese; banana; avocado; nuts; soy sauce; miso; herrings; smoked foods; sausages; offal; spinach; chocolate and wine (particularly red).

Likewise, preservatives and artificial colourings may also need to be eliminated in some very sensitive individuals. The Consumer Affairs Division of the German branch of the European Common Market lists the following as being possibly implicated in GIT disorders: E220; 221; 222; 223; 224; 338; 339; 340; 341; 407 (found in ice cream); 461; 463; 465; 466 and 450.

If candida is a complicating or causative factor, a low sugar/yeast free diet by the mother is recommended until the clinical picture clears. If herpes' outbreaks are a common problem for the mother, low arginine/high lysine diets with appropriate L-Lysine supplementation is indicated. Foods high in arginine include: all nuts and seeds (especially peanuts); chocolate; corn; sugar; alcohol; coffee and tea. Foods high in lysine include: fish and seafood; milk (including human milk!); cheese and yoghurt; eggs; liver; soybeans; peas and beans; wheatgerm and brewer's yeast.

Herbs or herbal teas are not generally recommended in any instance associated with lactation as herbal alkaloids are detected in breastmilk. In the main babies who present with symptoms of colic or lactose intolerance are, I find, generally best helped with feeding management strategies and dietary advice. A homœopathic remedy is not necessarily indicated or necessary. However, with babies who have true GORD, there tends to be a significant amount of damage complicated often by a history of medications. In those instances I find it necessary and helpful to include a series of homœopathic remedies in with the management regime.

## BIBLIOGRAPHY

- (1) Illingworth, RS "Infantile Colic Revisited" *Arch Dis Child* 60; 981-985; 1985
- (2) Lerner A, Bransky D "Carbohydrates in Paediatric Nutrition in Health and Disease" Vol 58; in Bourne GH (ed) "Aspects of Childhood Nutrition" *World Rev Nutr Diet* Basel, Karger, 1989, pp. 103-1301
- (3) Antonowicz I & Lebenthal E: Developmental pattern of small enterokinase and disaccharide activities in the human foetus" *Gastroenterology* 72: 1299-1303, 1977
- (4) Woolridge MW, Fisher C "Colic; "overfeeding" and symptoms of lactose malabsorption in the breastfed baby; a possible artifact of feeding mismanagement" *Lancet* 2:382, 1988
- (5) Hatherly P "The manipulation of maternal diet and its effect on the infant with particular reference to gastrointestinal disturbance...a series of case studies" *J Aust Coll Nutr and Env Med* Vol 13, No 2 Dec 1994
- (6) Collier et al (eds) *Oxford Handbook of Children's Specialities* 5<sup>th</sup> edition Oxford University Press 1999 p272
- (7) Edwards, Bouchier (eds) *Davidson's Principles & Practice of Medicine* 16<sup>th</sup> edition Churchill Livingstone, Melbourne 1991 p 425
- (8) UNINEWS (University of Newcastle) August 2000 p15
- (9) Edwards et al *opcit* p 427

- (10) Lissauer, Clayden (eds) *Paediatrics* Mosby Sydney 1999 p123
- (11) Lawrence RA & RM *Breastfeeding a Guide for the Medical Profession* 5<sup>th</sup> edn  
Mosby Sydney 1999 p289
- (12) Lissauer et al *opcit* p 123
- (13) Lawrence et al *opcit* p 617
- (14) Bousquet et al: "Predictive value of cord serum IgE determination in the development of early-onset atopy" *Ann Allergy* 51:291 1983
- (15) Kuroume et al: "Milk sensitivity in the production of eczematous manifestations in breastfed infants with particular reference to intrauterine sensitisation"  
*Ann Allergy* 37: 41; 1976
- (16) Savilhati E et al "Low colostral IgA associated with cow's milk allergy"  
*Acta Paediatr Scand* 80:1207, 1991
- (17) Chandra et al "Influence of maternal food antigen avoidance during pregnancy and lactation on incidence of atopic eczema in infants" *Clin Allergy* 16:563, 1986
- (18) de Boussieu D et al "Allergy to non-dairy proteins in mother's milk as assessed by intestinal permeability tests" *Allergy* 49:882, 1994
- (19) Lifschitz CH et al "Anaphylactic shock due to cow's milk protein hypersensitivity in a breastfed infant" *J Pediatr Gastroenterol Nutr* 7:141, 1988
- (20) Hahnemann S *Organon of the Medical Art* (ed Wenda Brewster O'Reilly)  
Birdcage Books Washington USA 1996
- (21) Banerjea, Subrata *Miasmatic Diagnosis* Jain New Delhi 1991 p 67
- (22) Herscu Paul *The Homeopathic Treatment of Children*  
North Atlanta Books, Berkeley, California 1991
- (23) Banerjea S *opcit* p 75
- (24) D'Adamo PJ, *Eat Right for Your Blood Type* G.P. Putnam's Sons New York 1997
- (25) Felter HW, Lloyd JU *King's Medical Dispensatory*  
<http://metalab.unc.edu/herbmed/eclectic/kings/ulmus.html>

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