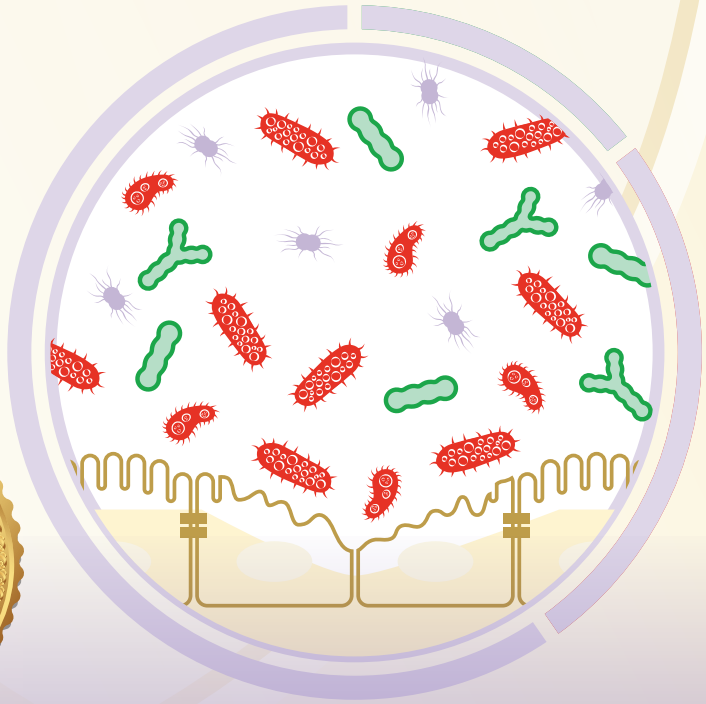
NUTRICIA

CASE STUDY BOOKLET

SUPPORTED BY MORE THAN 35 YEARS OF CLINICAL RESEARCH AND OVER 90 PUBLICATIONS



This information is intended healthcare professionals only.

Neocate Syneo is a Food for Special Medical Purposes for the dietary management of Cow's Milk Allergy, Multiple Food Protein Allergies and other conditions where an amino acid based formula is recommended. It must be used under medical supervision after full consideration of all feeding options, including breastfeeding.

Accurate at time of publication: September 2022.

Neocate® SYNEO

INTRODUCTION

The gut microbiota is involved in various metabolic processes that regulate gut health and immunity.[1] Over the past decade, there has been mounting interest in the role of the gut microbiome in the development of food allergy.[2-4]

Infancy is an important stage for the establishment and maturation of the gut microbiome.5 Factors such as gestational age, mode of delivery, antibiotics exposure, environmental exposures, genetics, and feeding method (breast or formula), are known to influence this maturation process.[5] While the gut microbiota of breastfed infants shows a predominant bifidogenic profile, several studies show an imbalance of the gut microbiota of infants with cow's milk allergy (CMA).[6-10]

Neocate Syneo, an amino acid formula (AAF), contains our unique SYNEO blend of oligosaccharides (scFOS/lcFOS*) and Bifidobacterium breve M16-V (B. breve) that work together synergistically to modulate the gut microbiota,[11-14] supporting immune development and long-term health.[15–18] Neocate Syneo is backed by 10 years of research, including studies involving over 1,500 infants. It is suitable from birth and is indicated for the dietary management of cow's milk allergy, multiple food protein allergies, and other conditions where an amino acid formula is indicated.

Studies show that Neocate Syneo supports healthy growth and restores the gut microbiota of infants with CMA to support the developing immune system.[11-14] Additional outcomes include fewer reports of antibiotic usage,[11–14^,19†,20] infections,[11–14^,19†,20] and hospitalisations due to infections[14^,20] in infants using Neocate Syneo compared to an AAF without the SYNEO blend. These preliminary findings are clinically relevant in this group of infants who may be more susceptible to infections.[21–24]

This case study booklet contains a range of thirteen case studies written by healthcare professionals from different countries. The objective of this booklet is to provide you with real-life, practical insights on the diagnosis and management of infants with CMA. It describes clinical practices of CMA management around the world and the use of Neocate Syneo, to complement the extensive evidence available on synbiotics from clinical studies. Each case illustrates different challenges, e.g., history of prematurity, formula acceptance issues, faltering growth, multiple food allergies, experiencing gastrointestinal (GI), dermatological, respiratory symptoms, and describes the impact of CMA on infants and their families.

SELECTING THE OLIGOSACCHARIDES & BENEFICIAL BACTERIAL STRAIN

Breastmilk contains prebiotic oligosacchardes and beneficial bacteria to stimulate a healthy gut microbiota and support the developing immune system.[15,25-28]

In Neocate Syneo the oligosaccharides selected are a combination of short chain fructo-oligosaccharides (scFOS) and long chain fructo-oligosaccharides (lcFOS). Fructo-oligosaccharides are suitable for infants with CMA as they are completely free from cow's milk.

The beneficial bacteria strain selected for Neocate Syneo is *Bifidobacterium breve* M-16V. *B. breve* M-16V is the most common bifidobacteria species in human milk[15,10] and in the gut of healthy breastfed infants.[29,30] It was selected for its ability to reduce allergic responses in pre-clinical[31,32] and clinical studies.[33,34] *B. breve* M-16V is safe and has a long history of use, even in premature infants.[35-38]

*short chain fructo-oligosaccharides / long chain galacto-oligosaccharides; ^ Exploratory outcomes from randomised control trials, Neocate Syneo vs Neocate LCP; † UK Observational study of real world evidence in THIN GP database, Neocate Syneo vs Alfamino, Feb 2021.

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CONTENTS

Case Study: Baby A

Infant with severe atopic dermatitis, MFA, growth failure and loose stools

Raquel Durban
Registered Dietitian

PATIENT PROFILE

An infant with multiple food allergies (MFA) including IgE-mediated cow's milk allergy (CMA), who previously refused a hypoallergenic formula tolerated Neocate Syneo Infant[1]. Following the switch to Neocate Syneo the infant's severe atopic dermatitis (eczema) and loose stools resolved and he experienced catch-up growth.

- IgE-mediated CMA
- Peanut allergy
- Faltering growth
- Dermatological symptoms
- Gastrointestinal symptoms
- Symptomatic on breastmilk (mother following elimination diet)

BACKGROUND

Baby A was exclusively breastfed from birth. At two month old Baby A was seen by a dermatologist who diagnosed him with atopic dermatitis. At five months old, Baby A's eczema was widespread, on his face, arms, legs, torso and most severely on his cheeks, thighs and ankles. Baby A also presented with loose stools.

MANAGEMENT

At two months old, in an effort to treat Baby A's newly diagnosed atopic dermatitis, Baby A was prescribed topical creams. However, these were not as effective as his mother or the dermatologist had hoped. As Baby A's mother was breastfeeding, she trialled an elimination diet excluding milk and soy, after hearing about this method from an online support group. However, after two weeks no improvement was seen in Baby A's symptoms and she reintroduced milk and soy in her diet.

At five months old, Baby A's eczema was widespread and his mother self-referred him to an allergy specialist. Around six months old, Baby A commenced complementary feeding. Baby A underwent skin prick testing which showed a strong sensitivity to peanut (epinephrine was given) and a mild sensitivity to cow's milk. Until the allergy testing, Baby A hadn't been exposed to peanuts and had been tolerating cow's milk based yoghurt without developing hives or swelling. However, he had been consuming packaged infant foods, which may have contained, or been contaminated with, allergens. Following the allergy testing, Baby A's family were educated on how to avoid milk and peanuts and, empirically, tree nuts were also advised to be avoided. Baby A was commenced on 400 international units of vitamin D, as recommended by the National Eczema Association.

Baby A's mother was keen to explore supplemental formula feeding, to allow others to be involved in Baby A's feeding without her expressing breast milk. Baby A was commenced on a hypoallergenic infant formula in light of his food allergies and loose stools but he refused it. His mother trialled two more weeks of following a cow's milk elimination diet but did not find this to be helpful, and returned again to her normal diet. Baby A's widespread eczema and loose stools persisted and his weight remained static, resulting in a drop of two percentiles (see weight chart).

FOLLOW UP CARE

At seven and a half months old, Baby A started a gradual transition onto an amino acid formula with synbiotics, **Neocate Syneo**; his final target volume was 30fl oz (887 ml) per day which provides 600kcal (Baby A's estimated daily requirements: 710kcal, 11g protein). Education was also provided regarding allergen free dietary alternatives for Baby A and his mother.

Two weeks later, at eight months old, Baby A was tolerating 28fl oz (828ml) of **Neocate Syneo** per day. His stools had improved, with three days of formed stools, and his eczema had resolved with the exception of the eczema on his cheeks; this persistent eczema was likely due to his mother continuing to breastfeed for comfort without following an elimination diet, as was her preference. Baby A achieved his target volume of **Neocate Syneo** (30fl oz/887ml), and following the success of **Neocate Syneo**, Baby A's mother felt more confident to wean him off breastmilk completely.

At eight months old, Baby A's weight remained static on the 10-25th percentile. However, in the months that followed he gained weight and experienced catch-up growth; at his twelve month appointment Baby A was in the 50th-75th percentile for weight.

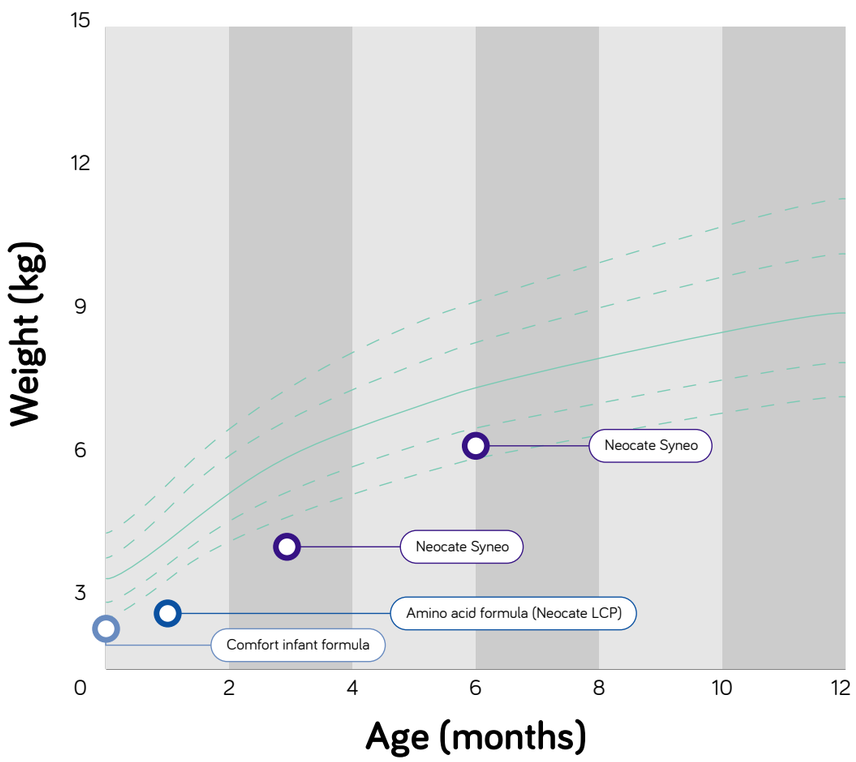
DISCUSSION

Finding the appropriate hypoallergenic formula for Baby A, Neocate Syneo, lead to an improvement in his symptoms and in the quality of life of his family. His family's confidence was improved further after seeing Baby A's weight gain and catch-up growth (between eight and ten months) following the switch to Neocate Syneo.

> *His stools had improved and his eczema had resolved with the exception of the eczema on his cheeks*

> *The switch also allowed for catch-up growth to occur and improved his family's quality of life*

Growth Chart



Conclusion:

In this infant with IgE-mediated CMA and peanut allergy, a switch to Neocate Syneo resulted in the resolution of both his gastrointestinal and dermatological symptoms. The switch also allowed for catch-up growth to occur and improved his family's quality of life.

Neocate Syneo is a Food for Special Medical Purposes for the dietary management of Cow's Milk Allergy, Multiple Food Protein Allergies and other conditions requiring an Amino Acid-based Formula. It must be used under medical supervision after full consideration of all feeding options, including breastfeeding.

REFERENCES

1. Neocate Syneo Infant is the USA formulation equivalent to Neocate Syneo in EU/Rest of world

Case Study: Baby B

Infant with persistent diarrhoea and blood in stool on an eHF

Mónica del Compare
Paediatric Gastroenterologist

PATIENT PROFILE

This non-IgE mediated cow's milk allergic infant, born at 40 weeks by caesarean section, displayed symptoms of rectal bleeding and diarrhoea. After exclusive breastfeeding with the infant's mother excluding allergens and breastfeeding supplemented with multiple different formulas had failed to resolve the infants' symptoms, a switch to Neocate Syneo resulted in fast symptom resolution and satisfied parents.

- Non-IgE mediated CMA
- Born by caesarean section
- Family history of allergy to penicillin and anti-inflammatories
- Infant antibiotic use
- Gastrointestinal symptoms
- Symptomatic on an eHF, an AAF and when breastfed with mother following an elimination diet

BACKGROUND

Baby B was born at 40 weeks by an elective caesarean section, weighing 3.39kg. Baby B had a family history of atopy as her father and grandfather were allergic to penicillin and anti-inflammatories. Baby B was breastfed from birth but lost 12% of her body weight within the first 72 hours of life and weighed 2.891kg on discharge. In light of Baby B's weight loss and her mother's low production of breast milk, at discharge she was started on a standard infant formula to supplement breastfeeding. At three weeks old, Baby B presented with rectal bleeding and diarrhoea.

MANAGEMENT

The first stage of Baby B's treatment was to rule out other diseases; her stool culture did not contain adenovirus, rotavirus or growth of any pathogenic bacteria, her routine blood tests were normal. A maternal elimination diet avoiding cow's milk and soy was recommended. After seven days there was no symptom improvement and the mother was recommended to additionally eliminate egg, wheat, fish and nuts. As Baby B continued to experience bleeding, she underwent scintigraphy (a gamma scan) which ruled out Meckel's diverticulum. Ideally, Baby B would have also had an endoscopy, but her mother declined this. After ruling out other potential diseases, non-IgE mediated cow's milk allergy (CMA) was suspected.

The aim of Baby B's treatment was for her to achieve optimal nutrition, stop bleeding, avoid exposure to milk, and avoid exposure to other breast milk allergens.

When Baby B was 21 days old, she was weaned off standard infant formula and switched to exclusive breastfeeding. However, Baby B's rectal bleeding and diarrhea persisted and at 50 days of age, breastfeeding was supplemented with a casein-based, low-lactose, high medium chain triglyceride (MCT), extensively hydrolyzed formula (eHF). The eHF had no effect on Baby B's symptoms and she was switched onto an amino acid formula (AAF), to supplement breastfeeding. As a result of her restrictive elimination diet, Baby B's mother lost over ten kilos in weight. In light of this significant weight loss, and to ensure that no other component of Baby B's mothers' diet whilst breastfeeding was causing the bleeding, Baby B was prescribed Neocate Syneo, and breastfeeding was suspended for one week to evaluate the results.

FOLLOW UP CARE

The switch to **Neocate Syneo** was successful and within a week of commencing **Neocate Syneo** Baby B's rectal bleeding had stopped. Baby B's diarrhoea also quickly resolved; her stools were a normal colour and consistency and no effort was required to defecate.

At six months old semi-solid foods were introduced and at ten months old Baby B was challenged to determine if she'd acquired tolerance to milk. To begin with she was stepped down to an eHF which was tolerated well and after a month she switched to a partially hydrolysed formula (pHF). After tolerating the pHF well, at 12 months old she started on a lactose free formula. Baby B was trialled with cow's milk at 12 months old and tolerated it with no issues. At 15 months she was switched onto a young child formula containing cow's milk protein and cow's milk containing foods were introduced with no issues.

DISCUSSION

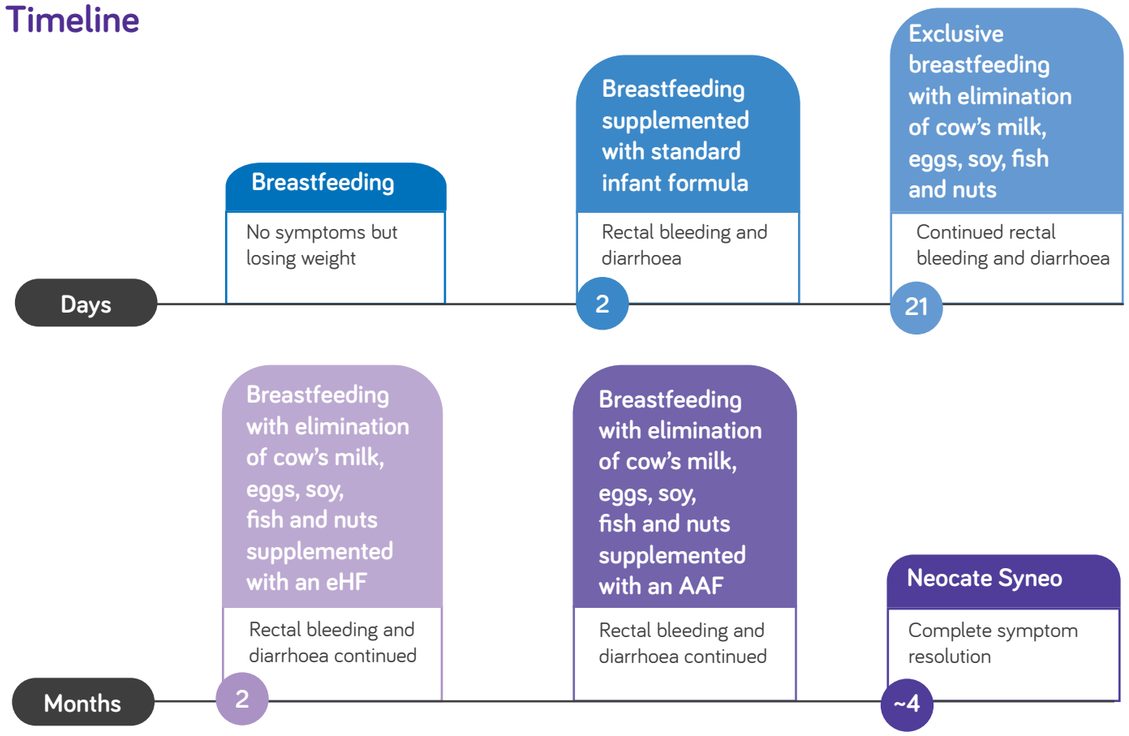
Baby B's parents were emotionally struggling with seeing their daughter experience bleeding and diarrhoea. They found themselves constantly anxious, always needing to be alert and not able to enjoy time with their daughter. Following the complete resolution of Baby B's symptoms after commencing Neocate Syneo, her family were very grateful; Baby B's mother regained the weight she had lost and the whole family were much calmer and able to enjoy time with Baby B.

Making correct decisions is essential to maintaining a good doctor-patient-family relationship; in this case the doctor-patient relationship was improved as a result of Baby B's successful symptom resolution.

It is important to listen to the infant's parents when making medical decisions. In this case the mothers' health was not good, she was losing weight and both parents were stressed. Sometimes medical decisions need to be made by drawing on experience and evaluating what is best for both the infant and their family. Although it was a difficult decision to suspend breastfeeding, it was made in agreement with Baby B's parents. For Baby B, the combination of synbiotics in Neocate Syneo was thought to be ideal as she presented with damage in her intestinal mucosa.

> *In light of this significant weight loss, and to ensure that no other component of Baby B's mothers' diet whilst breastfeeding was causing the bleeding, Baby B was prescribed **Neocate Syneo**.*

Timeline



Conclusion:

Baby B saw a fast resolution of her rectal bleeding and diarrhoea following the switch to Neocate Syneo. Baby B's mother was able to regain the weight she had lost whilst on her restrictive elimination diet and the whole family was much calmer. The use of Neocate Syneo led to excellent satisfaction from the patient and healthcare team.

Case Study: Baby C & D

Twins born prematurely with skin and GI symptoms and faltering growth

Juan Pablo Riveros López Paediatric
Gastroenterologist

PATIENT PROFILE

These infant twins with non-IgE mediated cow's milk allergy (CMA) were born preterm by caesarean section with no family history of allergies. Switching to Neocate Syneo resulted in
a rapid and complete resolution of their gastrointestinal (GI) symptoms and allowed catch-up growth to occur.

- Twins, born prematurely
- Non-IgE mediated CMA
- Faltering growth (Baby C & D)
- Gastrointestinal symptoms (Baby C & D)
- Dermatological symptoms (Baby C only)

BACKGROUND

Baby C and D are twin girls who were born preterm at 33 weeks by caesarean section with intrauterine growth retardation. Baby C and D weighed 1325g and 1560g respectively at birth; Baby C is the oldest twin. Their mother had COVID-19 pneumonia at the time of birth, and they have no family history of atopy. Both twins had neonatal jaundice and received supplemental oxygen due to transient tachypnea (rapid breathing). Both were fed with a comfort infant formula via a gastric tube from birth. At three days old they presented with severe abdominal pain (both), anal erythema (both), irritability (both), blood in stools (Baby C), diarrhoea (both), crying (both), bloating (both), atopic dermatitis (Baby C) and colic (Baby C). Both twins were admitted to the neonatal intensive care unit (NICU).

MANAGEMENT

In the NICU, necrotizing enterocolitis was ruled out and both twins were suspected to have food protein-induced enterocolitis syndrome (FPIES). Baby C and D were both recommended to be exclusively orally fed with an amino acid formula (Neocate LCP) and were discharged home after 14 and 15 days, respectively.

35 days after discharge from the newborn unit, both infants underwent a supervised provocation allergy test with a comfort infant formula. Following the test, Baby C presented with abdominal distention and a small amount of blood in her stools, and Baby D presented with abdominal distention and diarrhoea. The reactions confirmed both infants' suspected diagnoses of non-IgE mediated CMA.

FOLLOW UP CARE

The aim of the nutritional management in both infants was to achieve a good nutritional status, to achieve catch up growth and to control their CMA symptoms. At their first consultation, Baby C was diagnosed with malnutrition and stunting, and Baby D was at risk of malnutrition and stunting. Following the infants' confirmed diagnoses of CMA, both infants were started on an amino acid formula with synbiotics, **Neocate Syneo**, 75-100ml eight times a day. **Neocate Syneo** was tolerated well by both infants due to its palatability and the twins' parents and carers found the formula easy to use.

Baby C saw a complete resolution in her diarrhoea, bloody stools, and abdominal distention ten days after starting on **Neocate Syneo**. Although Baby C's dermatitis improved, mild dermatitis on her face persisted and it was thought that this may not be a solely CMA related symptom. Baby D had complete resolution of her diarrhoea, abdominal distension, erythema, and irritability five days after commencing **Neocate Syneo**.

At their second and third consultations, Baby C was at risk of malnutrition and short stature but was in the process of catch-up growth and Baby D had age-appropriate weight and height, and a weight appropriate for her height.

Now, at 6 months of age, the twins have not yet started complementary feeding and neither infant has developed tolerance to cow's milk.

DISCUSSION

The switch to Neocate Syneo resulted in peace of mind and confidence for both Baby C and D's parents and healthcare team. Given that both twins were experiencing symptoms of CMA, the symptom relief that Neocate Syneo caused had a large positive impact on their family environment as well as their finances.

The benefits of synbiotics are broadly supported by the research to date, including clinical trials, with meta-analyses and systematic reviews. This case study illustrates safe use of amino acid formulas with synbiotics in these premature babies and effective nutritional recovery. The quick resolution of CMA symptoms in both Baby C and D may have been due to the synbiotics included in Neocate Syneo. The synbiotics potentially optimised the twins' immune systems; neither had an infection or needed antibiotics after starting on Neocate Syneo.

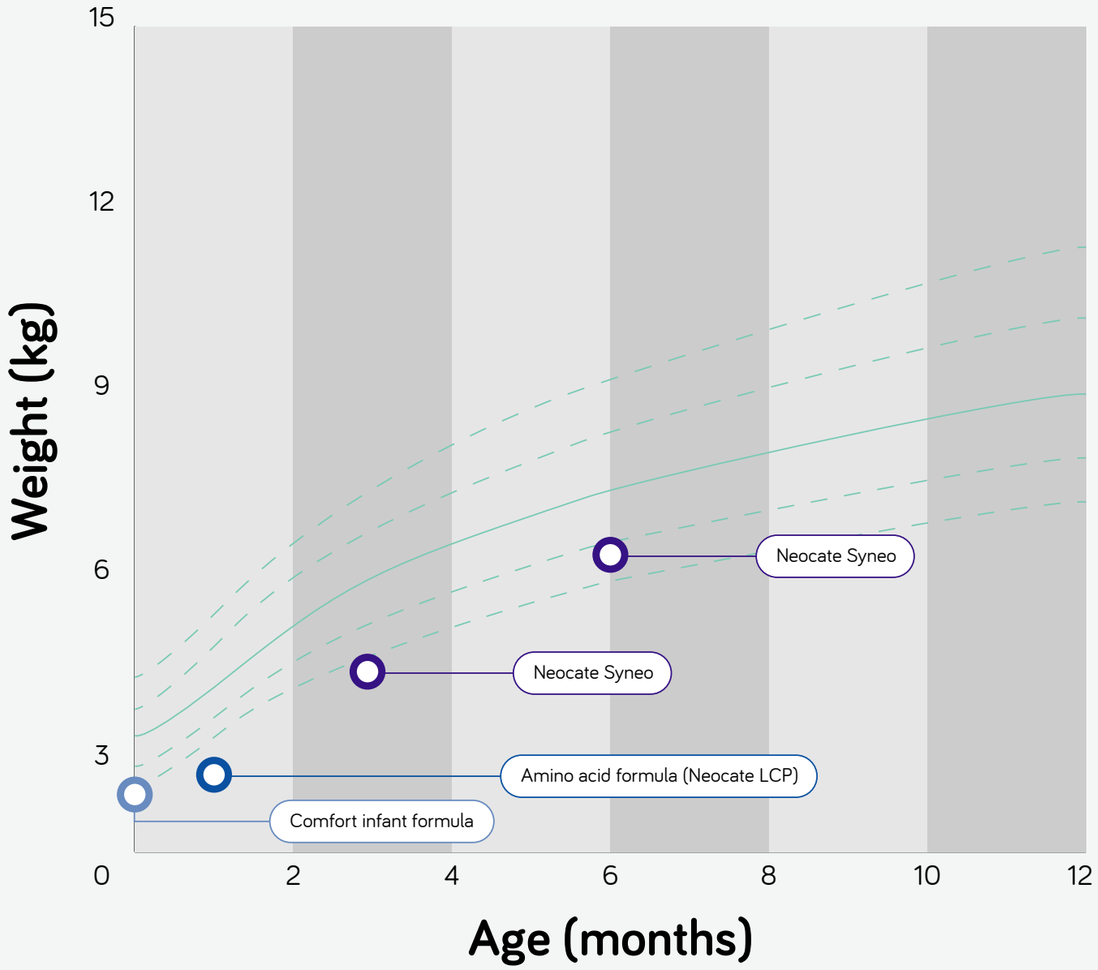
> *"This case study illustrates safe use of amino acid formulas with synbiotics in these premature babies and effective nutritional recovery.*

> *"The synbiotics potentially optimised the twins' immune systems; neither had an infection or needed antibiotics after starting on Neocate Syneo.*

Conclusion:

Baby C and D both tolerated Neocate Syneo well, had catch-up growth and quickly achieved the complete resolution of their GI symptoms ten and five days respectively after starting the formula. The switch had a positive impact on the twins' family environment and gave their parents and healthcare team peace of mind.

GROWTH CHART: BABY C

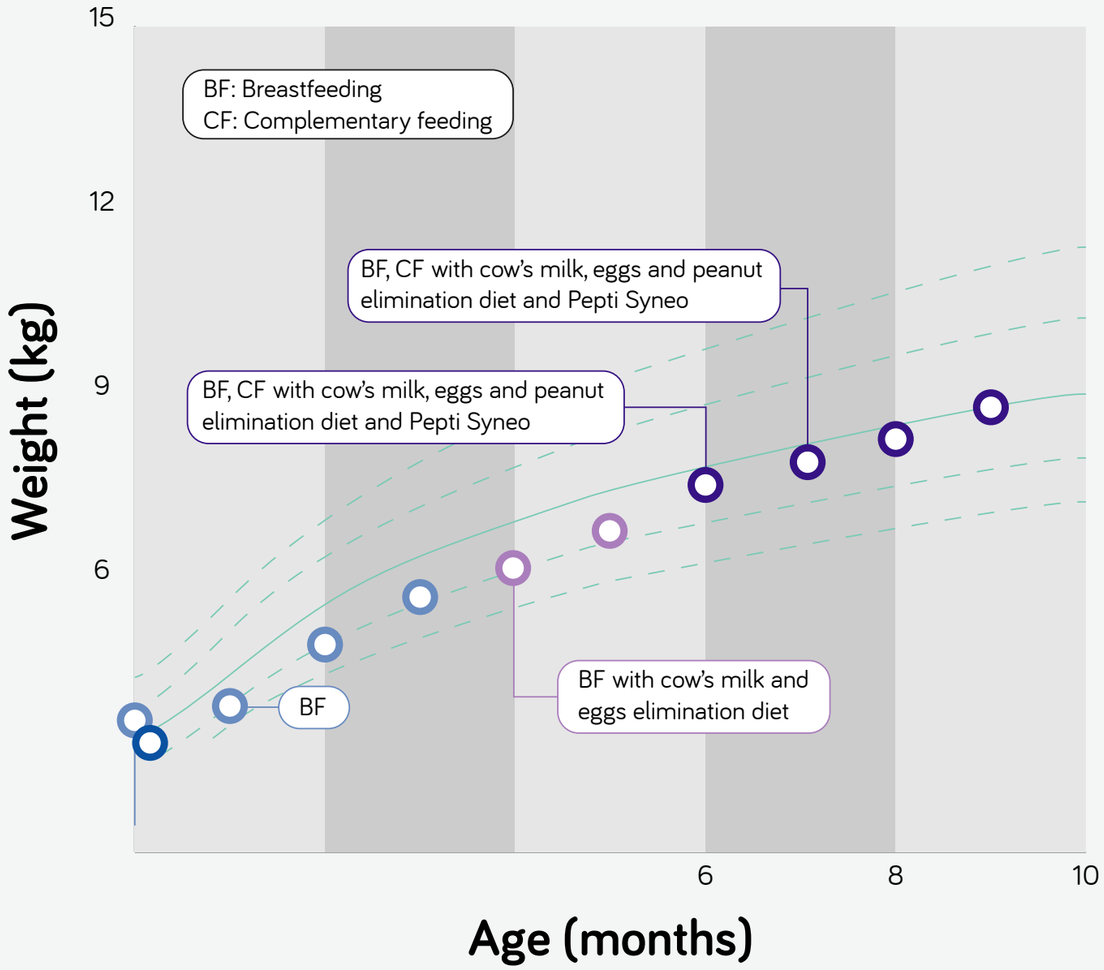


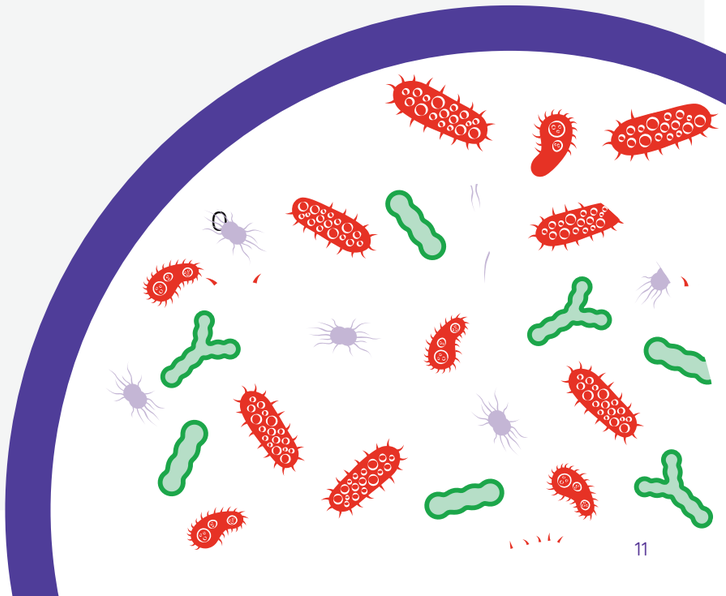
Whilst the probiotic in Syneo, Bifidobacterium breve *M-16V has been shown to be used safely in premature infants*[1]*, it is well known that this group of infants may be immunocompromised. Therefore, Nutricia has taken a cautious approach to not recommend Neocate Syneo for this group of vulnerable infants before they reach term age (corrected age). Nutricia recommends Neocate Syneo to be use once the infant has reached his/hers corrected age.*

The choice of feed should always be determined by the HCP and is dependent on other factors such as the age, body weight and medical condition of the patient.

[1] Patole SK, Rao SC, Keil AD, Nathan EA, Doherty DA, Simmer KN. Benefits of Bifidobacterium breve M-16V Supplementation in Preterm Neonates - A Retrospective Cohort Study. Baud O, ed. PLoS One. 2016;11(3):e0150775. doi:10.1371/journal.pone.0150775

GROWTH CHART: BABY D





Case Study: Baby E

Infant with persistent skin symptoms on an EHF

Dr Najwa Alsawi
Allergist/Immunologist

PATIENT PROFILE

Full term infant with IgE-mediated cow's milk allergy (CMA), who previously received an extensively hydrolysed formula (JHF), saw a substantial improvement in eczema and was able to stop her steroid-based cream after eight weeks, following a switch to Neocate Syneo.

- IgE-mediated CMA
- Family history of asthma
- Dermatologic symptoms
- Prescribed emollient and steroid-based cream for eczema

BACKGROUND

Baby E was born at full term by vaginal delivery with no postnatal complications. Baby E has one older, healthy sibling and a family history of asthma (dad asthmatic). At four months old she was hospitalised for bronchiolitis. Baby E was exclusively breastfed until four months old before being weaned onto a standard infant formula at five months, and complementary foods were introduced at six months. When Baby E was weaned onto the standard infant formula at five months, she developed eczema and severe itching. At 11 months Baby E was growing well within normal growth parameters. However, she was waking up every two hours, was irritated most of the time, trying to scratch her skin, needing to be constantly held and would often cry inconsolably.

MANAGEMENT

Baby E presented to the paediatrician with eczema at seven months and again at nine months; she was initially prescribed an emollient followed by a steroid-based cream, both times the eczema was initially improved with medication, but the eczema rashes re-appeared.

At 11 months Baby E presented to the paediatric allergy clinic with a moist, erythematous rash on her cheeks, chest, back and the extensor surfaces of her arms. She underwent lab tests, and a diagnosis of CMA was made. Baby E showed a high Casein specific IgE level (80ku/l), her skin prick test gave a wheel diameter of 12mm.[1]

Following her diagnosis of CMA Baby E was started on an JHF. After a month of casein-based JHF her eczema was not improved, and Baby E was switched onto Neocate Syneo, an amino-acid based formula with synbiotics. Neocate Syneo was used alongside an elimination diet of cow's milk free complementary foods including fruit, vegetables and grains. Within ten days of starting Neocate Syneo, Baby E's mum saw an improvement in her eczema.

FOLLOW UP CARE

The aim of Baby E's nutritional intervention was to avoid cow's milk protein and to increase her food tolerance, by improving her microbiota. **Neocate Syneo** was introduced at 12 months and was chosen because of the ability of synbiotics to stop or affect the progression of (other) allergies. Baby E didn't reject **Neocate Syneo**, and it was well tolerated.

Within four weeks of commencing **Neocate Syneo** Baby E was sleeping much better; she was only waking up one to two times a night versus every two hours, as well as having longer daytime naps. Baby E's facial eczema was improved at four weeks. Although her body remained covered in eczema, it also showed signs of improvement.

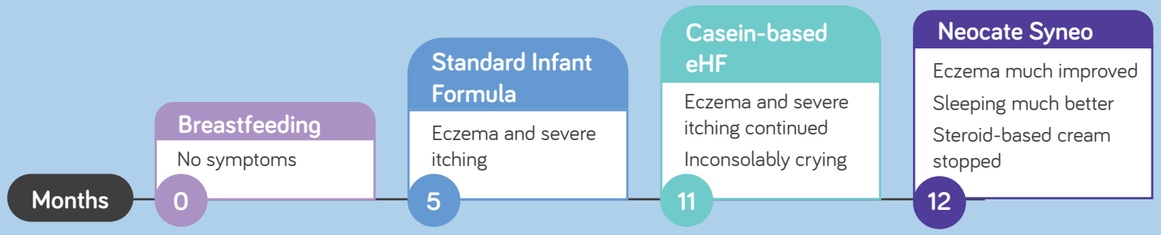
After eight weeks, Baby E's eczema was almost completely clear and her back, which was previously a mass of red eczema patches, was now smooth and clear. Baby E stopped using her steroid-based cream two months after the switch to **Neocate Syneo**. Now, at 15 months, a few patches of mild irritation persist on Baby E's legs. She is sleeping through the night and is advised to continue feeding ad libitum with **Neocate Syneo** for 9-12 months.

DISCUSSION

Neocate Syneo has been effective with most patients, as they don't experience severe abdominal gas, diarrhoea or constipation. Due to the existing dysbiosis (disruption in the gut microbiota), great improvements are seen in patients using Neocate Syneo. Providing infants with friendly bacteria (included in the synbiotic blend) also decreases the probability of them developing an allergy in the future.

> *After eight weeks, Baby E's eczema was almost completely clear.*
>
> *Baby E stopped using her steroid-based cream two months after the switch to **Neocate Syneo**.*

Timeline



Conclusion:

This CMA infant, who developed severe eczema after weaning onto a standard infant formula at six months, had almost complete resolution of her eczema eight weeks after switching to Neocate Syneo and stopped using her steroid-based cream. Baby E is now able to sleep through the night after previously waking every two hours. Switching Baby E to Neocate Syneo lead to a satisfied healthcare team and satisfied parents.

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1. For skin prick tests, an average wheel diameter above 3mm usually indicates an allergy. Kido, J., Hirata, M., Ueno, H., Nishi, N., Mochinaga, M., Ueno, Y., Yanai, M., Johno, M. and Matsumoto, T., 2016. Evaluation of the Skin-prick Test for Predicting the Outgrowth of Cow's Milk Allergy. Allergy & Rhinology, 7(3), pp.e139–e143. Van der Valk, J., Gerth van Wijk, R., Hoorn, E., Groenendijk, L., Groenendijk, I. and de Jong, N., 2015. Measurement and interpretation of skin prick test results. Clinical and Translational Allergy, 6(8).

Case Study: Baby F

Infant with persistent vomiting, MFA and FPIES

Alicia D. Tenn
Paediatric Nurse Practitioner

PATIENT PROFILE

Infant born by caesarean section with multiple food allergies and food protein-induced enterocolitis syndrome (FPIES) trialled multiple formulas without success. Following the switch to Neocate Syneo Infant[1], the infant saw an improvement in gastrointestinal symptoms, growth and quality of life.

- FPIES
- Multiple food allergies (MFA)
- Prematurely born infant
- Faltering growth
- Gastrointestinal symptoms
- Dermatological symptoms
- Symptomatic on breastmilk, and many formulas including eHF and an AAF without synbiotics

BACKGROUND

Baby F was born at 37 weeks by caesarean section. Pregnancy had been complicated by maternal diabetes. At two weeks old, Baby F presented with loose stools, significant vomiting and fits of screaming. At three weeks old, he developed bloody diarrhoea and was referred to a gastroenterologist where he was diagnosed with milk soy protein intolerance (multiple food allergies). Baby F also presented with a rash (hive-like in appearance) and severe reflux.

MANAGEMENT

Baby F was trialled on multiple medications to manage his reflux; he started on ranitidine and esomeprazole, before moving to compounded omeprazole and then lansoprazole. To manage his vomiting, Baby F's feeds were thickened and he was commenced on medication, including promotility agent erythromycin. However, these strategies were not sufficient to prevent Baby F's vomiting and at one month old, Baby F was hospitalised. On admission, he underwent a barium swallow test (upper gastrointestinal imaging test) which ruled out malrotation (twisted bowel).

In the first few months of life, Baby F struggled to gain weight given his intolerances and frequent vomiting episodes. Baby F was breastfed and supplemented with formula, in line with maternal preference. Whilst Baby F was breastfed his mother followed a restrictive elimination diet, excluding milk, soy and a number of other foods. Breastfeeding was trialled in combination with a number of formulas including a low-lactose formula, a partially hydrolysed low-lactose formula, an extensively hydrolysed formula (eHF) and a standard amino acid formula (AAF). Baby F didn't tolerate these formulas and they did not relieve his symptoms; they caused him pain which led to fits of inconsolable screaming.

FOLLOW UP CARE

At five and a half months old, Baby F was started on an AAF with synbiotics, **Neocate Syneo** which he tolerated well and by six months old Baby F was fully transitioned onto this new formula. Following the switch to **Neocate Syneo**, Baby F's diarrhoea completely resolved and the frequency of his vomiting episodes decreased, both of which allowed Baby F to grow adequately. Baby F's pain induced inconsolable screaming also significantly improved, positively impacting the quality of life of both Baby F and his parents.

However, his reflux persisted and he continued to have a recurrent rash. Baby F's mother was concerned that despite following her strict elimination diet Baby F was reacting to allergens in her breastmilk; she made the decision to cease breastfeeding and Baby F was exclusively formula fed with **Neocate Syneo**.

When Baby F began to introduce solids at around four months old, some of his allergy symptoms returned. He began presenting with one or a combination of bloody diarrhoea, delayed projectile vomiting and rashes, and was diagnosed with FPIES. As a result, solids were stopped and **Neocate Syneo** returned to being Baby F's sole source of nutrition. He was seen by immunology, who requested that Baby F was assessed by the genetics team before re-introducing solids, as there was a concern that Baby F had systemic mastocytosis (accumulation of excess mast cells in body tissues).

In order to maintain Baby F's growth, given that he couldn't tolerate large feeding volumes or solids, his feed was concentrated (from the standard 20kcal/fl oz (0.67 kcal/ml) to 24kcal/fl oz (0.80 kcal/ml), then to 27kcal/fl oz (0.90 kcal/ml) at nine months). The concentrated and thickened feeds in addition to medication helped to manage Baby F's persistent reflux. By the age of two, Baby F was able to tolerate some solids.

> *Baby F's diarrhoea completely resolved and the frequency of his vomiting episodes decreased, both of which allowed Baby F to grow adequately.*

> *Baby F trialled a number of different formulas without success before Neocate Syneo was introduced and best tolerated.*

Conclusion:

This case study focuses on an infant with medical issues including multiple food allergies, gastroesophageal reflux, FPIES, and feeding intolerance. Baby F trialled a number of different formulas without success before Neocate Syneo was introduced and best tolerated. The introduction of Neocate Syneo with oligosaccharides and live friendly bacteria had a positive effect on Baby F's gastrointestinal symptoms, resolving his diarrhoea and lessening his vomiting, both of which allowed Baby F to gain weight appropriately. The switch to Neocate Syneo also positively impacted Baby F and his parents' quality of life by improving his pain behaviour.

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Case Study: Baby G

Infant born prematurely with faltering growth and food refusal

Gemma Castillejo
Paediatric Gastroenterologist

PATIENT PROFILE

A baby born prematurely with non-IgE mediated cow's milk allergy (CMA) becomes asymptomatic and has quick catch-up growth using Neocate Syneo as the sole source of nutrition, despite historic use of extensively hydrolysed formula (eHF).

- Non-IgE mediated CMA
- Prematurely born infant
- Family history of asthma and penicillin allergy
- Infant antibiotic use
- Dermatological symptoms
- Gastrointestinal symptoms
- Feeding difficulties
- Symptomatic on an eHF

BACKGROUND

Baby G was born by vaginal delivery at 35+2 gestational weeks. Mum had no problems or illnesses during pregnancy and there were no specific risk factors for preterm delivery. There was a family history of asthma and penicillin allergy. Baby G showed respiratory distress and was admitted to the neonatal intensive care unit (NICU) for 12 days before being discharged with no health problems. In the NICU, Baby G received two days of supplementary oxygen, five days of intravenous antibiotics and five days of preterm formula via a nasogastric tube before moving to oral feeding.

MANAGEMENT

At 21 days of life Baby G presented to the emergency room after a 48-hour history of diarrhoea, food refusal and weight loss. Baby G had metabolic acidosis. Apart from dry skin and his eyes looking sunken, he appeared well and had no fever or other symptoms. The parents reported that colic started in Baby G after discharge from the NICU. Baby G had several episodes of vomiting and watery diarrhoea, with no blood or mucus. Till then, Baby G was passing one formed stool a day. His diarrhoea persisted and there was a suspicion that he was developing an enteropathy due to CMA. Tests were run to rule out infections and IgE-mediated CMA. Stool viral antigens, stool culture, skin-prick test and serum-specific IgE testing for cow's milk were all negative. Non-IgE mediated CMA was suspected. Baby G switched from a comfort formula, to an eHF, Pepti, with mild improvement.

One week later Baby G presented again to the emergency room as he was uncomfortable during meals with crying, fussiness and colic after eating. Since discharge, he had an irritant diaper dermatitis and mum had observed streaks of blood in some of his semi-liquid stools. Baby G looked malnourished, with abdominal distention and increased peristalsis. The eHF was considered to be unsuccessful and Baby G was switched to Neocate Syneo, an amino acid formula (AAF) with synbiotics. The target feeding volumes were never achieved, with the exception of Neocate Syneo (feeding regimen table on next page).

FOLLOW UP CARE

Before **Neocate Syneo** was commenced, Baby G was not meeting his nutritional goals due his lack of growth. Baby G's failure to thrive had the potential to compromise his future health, especially given that he was a born prematurely. Baby G's short-term nutritional aim was to recover his weight and nutritional status and long-term was to maintain his weight and nutritional status.

On Baby G's first admission to the emergency room, his weight (2.82kg) was lower than his birth weight, mainly due to faltering growth. Between the first and second emergency room visits, Baby G's weight only increased by 80g. Once he switched from the eHF to the AAF **Neocate Syneo**, he rapidly recovered his growth curve (growth chart on next page).

Baby G was prescribed, and took, 90ml **Neocate Syneo** every three hours. Baby G accepted **Neocate Syneo** quite well and after five days, certain symptoms, including abdominal pain and flatulence, had lessened. Baby G's stools remained liquid but no longer contained blood. After 12 days, Baby G had no abdominal pain, scarce flatulence, was passing one normal stool per day and had improved colic and diaper dermatitis. Abdominal distention remained, along with a discrete increase in peristalsis. After one month of **Neocate Syneo** Baby G was clinically asymptomatic, with the exception of occasional regurgitation.

FOLLOW UP CARE (CONTINUED)

Prior to Baby G commencing **Neocate Syneo**, his family were concerned about his neurological development and very anxious about his worsening condition and increasing number of symptoms. Five days after the initiation of **Neocate Syneo** Baby G's parents commented, "he is a totally different baby now, now we think we have got it".

Complementary foods, starting with fruit, were introduced at five months old without issue. Baby G passed a cow's milk (CM) challenge at 13 months, and CM was gradually introduced with no issues, starting with plain yoghurt.

> *"After one month of Neocate Syneo Baby G was clinically asymptomatic, with the exception of occasional regurgitation*

DISCUSSION

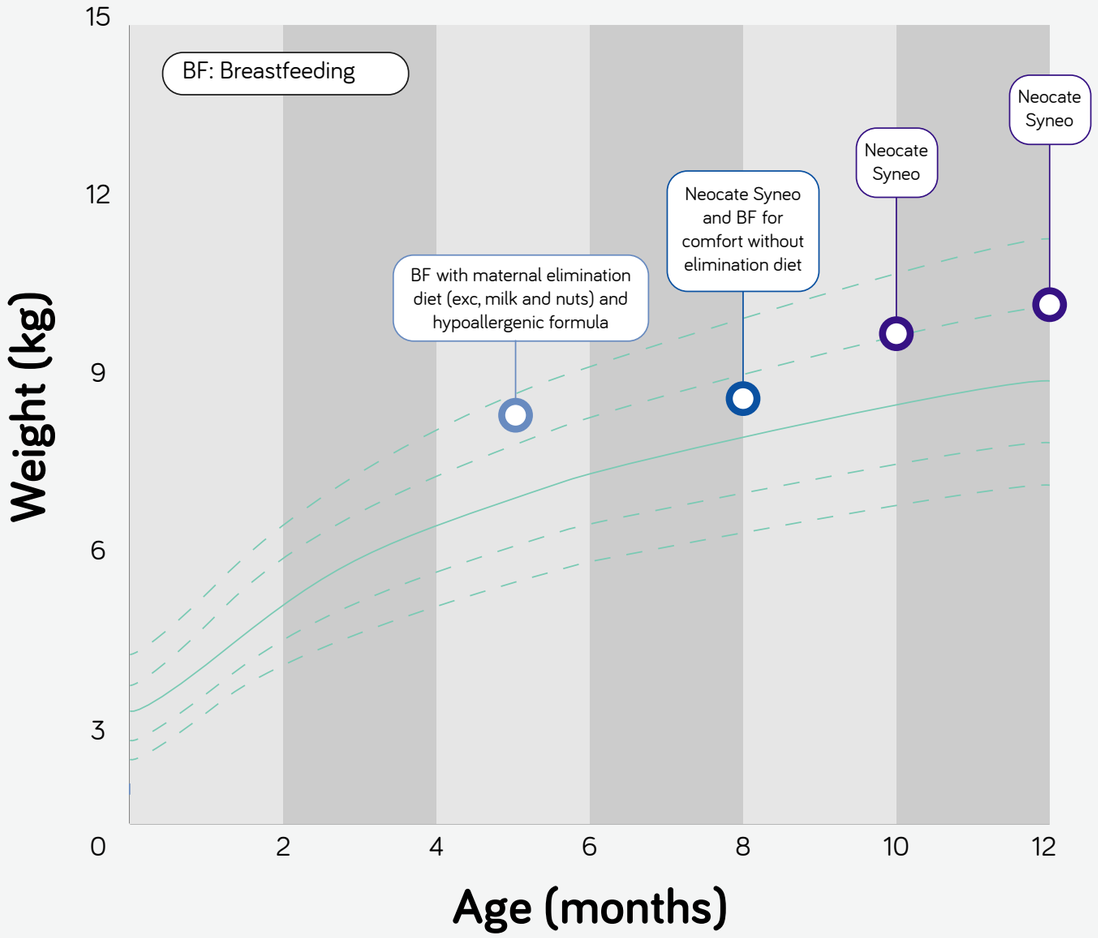
Many studies have shown that infants with CMA may have dysbiosis (an imbalance of their gut microbiota). In the short-term, dysbiosis can cause infants to have abdominal fussiness i.e., gas, straining, diarrhoea, bloating and colic, and may be responsible for the appearance or exacerbation of atopic dermatitis. Maintaining eubiosis (a balanced microbiota) can prevent complications such as acute gastroenteritis which would eventually require the use of antibiotics, causing more dysbiosis.

If dysbiosis is already present, synbiotics can help to recover the desired balance. Baby G's clinical picture on admission to the emergency room as suggestive of acute gastroenteritis. However, non-IgE CMA was diagnosed as Baby G's diarrhoea persisted accompanied by additional symptoms. Given that Baby G was a particularly vulnerable patient (born prematurely), the amino acid formula could have been initiated first, in place of the eHF. Neocate Syneo was chosen due to the potential positive impact of synbiotics, especially given Baby G's likely dysbiosis as a result of prematurity and CMA.

Conclusion:

In this non-IgE mediated CMA infant, a switch from an eHF to an amino acid formula with synbiotics, Neocate Syneo, resulted in Baby G recovering his growth curve. Initiation of Neocate Syneo also provided rapid symptom improvement, with Baby G becoming asymptomatic in one month.

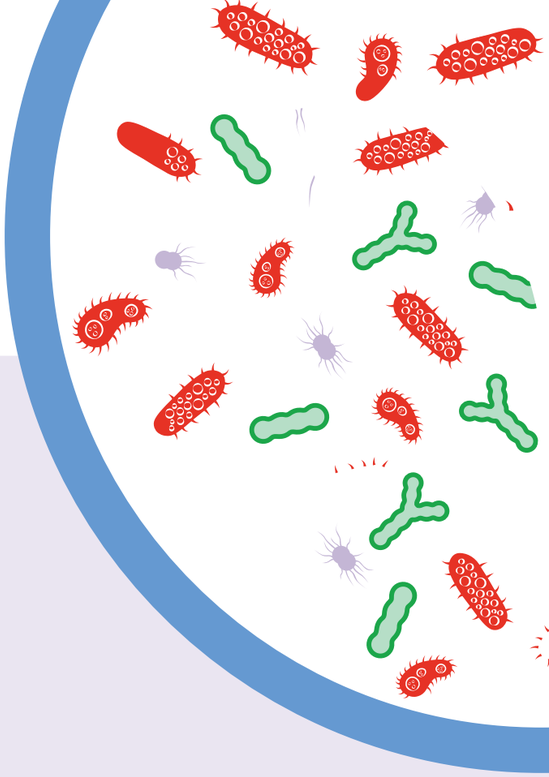
GROWTH CHART



> *Once he switched from the eHF to the AAF **Neocate Syneo**, he rapidly recovered his growth curve.*

FEEDING REGIMEN

AGE	FEED (PRESCRIBED INFANT FORMULA)	AMOUNT OF FEEDING TIMES/ DAY	TARGET VOLUME/ DAY	TARGET VOLUME ACHIEVED?
21 days	Comfort formula	8	480ml	No
27 days	Extensively hydrolysed whey formula	6	540ml	No
45 days	Neocate syneo	6	540ml	Yes



Case Study: Baby H

Infant with multiple GI and dermatological symptoms and long periods of crying

Dominik Fürsich
Paediatrician

PATIENT PROFILE

IgE-mediated cow's milk allergic infant, with a family history of hay fever and atopic dermatitis, experienced symptom resolution in three days following a switch from a partially hydrolysed formula (pHF) to a synbiotic containing amino acid formula, Neocate Syneo.

- IgE-mediated CMA
- Family history of hay fever and atopic dermatitis
- Gastrointestinal symptoms
- Dermatological symptoms

BACKGROUND

Baby H was born at full term weighing 2.52kg. There is a family history of hay fever and atopic dermatitis, and Baby H has two siblings and a pet dog. At birth Baby H was commenced on a standard cow's milk formula. Baby H had both gastrointestinal and dermatological symptoms of watery stools, facial eczema, colic, back arching and was permanently inconsolable. At four weeks old, he presented to the emergency room due to colic and inconsolability. He was seen again at his six-week routine check-up; Baby H continued to experience symptoms and his mother reported he was unable to sleep and had excessive gas. Baby H scored a 47 using the SCORAD (SCORing Atopic Dermatitis) tool[1], indicating severe atopic dermatitis.

MANAGEMENT

After presenting at the emergency room at four weeks old, Baby H was switched from his standard cow's milk formula to a pHF on account of his family history of hay fever and atopic dermatitis. Following this change, his stools shifted from watery to soft stools. No cause was found for Baby H's symptoms of colic and inconsolability and these symptoms persisted. Baby H was first seen in the paediatric medical practice for his routine six-week check-up. At this check-up, given his background of diarrhoea, inconsolability and eczema, he was switched from a pHF to Neocate Syneo. Three days after the switch his eczema, colic, diarrhoea and inconsolability almost completely subsided. Ten days after commencing Neocate Syneo, Baby H underwent a provocation test with pHF and his diarrhoea and colic returned. Following his positive provocation test, a diagnosis of IgE-mediated cow's milk allergy (CMA) was made and Baby H returned to Neocate Syneo.

FOLLOW UP CARE

The aim of Baby H's nutritional intervention was to stop his colic, diarrhoea and to improve his skin status. At six weeks, Baby H commenced **Neocate Syneo** and after one day he slept for several hours without waking for the first time in his life. After three days, Baby H's stools were creamy, he had no excessive gas, and his eczema was almost resolved.

After three days of **Neocate Syneo**, Baby H was smiling and relaxed and his long periods of crying had almost completely stopped. Baby H continued to have **Neocate Syneo** until he was one year old. At present, Baby H is a toddler and is consuming cow's milk and cow's milk products with no issues.

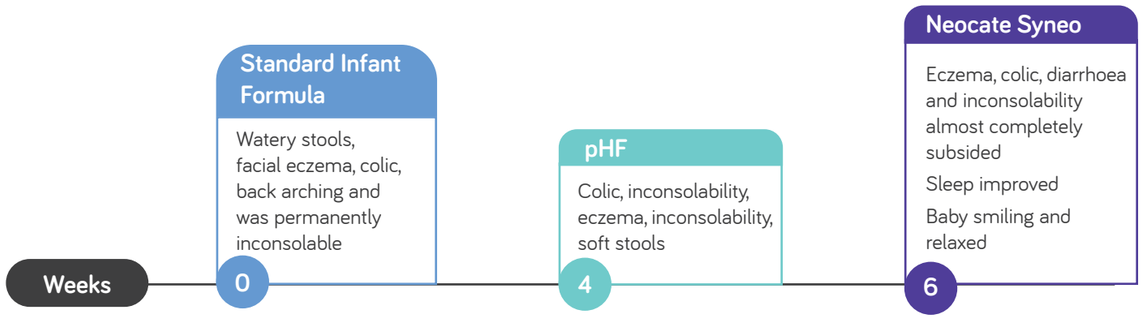
DISCUSSION

Having a healthy gut microbiota is particularly important in atopic infants. Given the synbiotic blend included in Neocate Syneo and the positive impact that this has on the gut microbiota, this was the formula of choice for Baby H.

Baby H's family had been burdened with his crying since his first week of life. Following the switch to Neocate Syneo, Baby H was no longer permanently inconsolable.

> *After three days of **Neocate Syneo**, Baby H was smiling and relaxed and his long periods of crying had almost completely stopped.*
>
> ***Neocate Syneo** resulted in rapid symptom improvement, with symptoms almost completely subsiding after three days of **Neocate Syneo**.*

Timeline



Conclusion:

In this IgE-mediated CMA infant, who previously suffered with multiple gastrointestinal and dermatological symptoms, switching from a pHF to Neocate Syneo resulted in rapid symptom improvement, with symptoms almost completely subsiding after three days of Neocate Syneo.

Neocate Syneo is a Food for Special Medical Purposes for the dietary management of Cow's Milk Allergy, Multiple Food Protein Allergies and other conditions requiring an Amino Acid-based Formula. It must be used under medical supervision after full consideration of all feeding options, including breastfeeding.

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Case Study: Baby I

Infant with eczema, vomiting and constipation

Simona Belohlávková
Allergist/Immunologist

PATIENT PROFILE

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according to the Czech CMA diagnosis and therapy guidelines and she maintained a normal height and weight throughout.

Baby I first presented to the allergology clinic at seven months old. She was displaying persistent symptoms of CMA, namely atopic dermatitis, vomiting, reflux, constipation and crying. Baby I underwent multiple allergy tests. Her skin prick tests were negative for milk and positive with egg whites (3mm diameter). Baby I had positive specific IgE antibodies to whole cow's milk (0.66 kU/L), alfa-lactalbumin (1.44 kU/L), casein (0.57 kU/L) and egg white (2.2 kU/L). Due to the presence of immediate (vomiting and crying) and delayed symptoms (eczema and constipation), and a positive open challenge test with an extensively hydrolysed formula after 4 weeks with Neocate Syneo, Baby I was diagnosed with both IgE and non-IgE mediated CMA.

BACKGROUND

Baby I was born at full term by caesarean section, with no complications before or after the birth. Baby I has two siblings and a family history of hay fever and eczema. Baby I was breastfed for the first month of life before being transitioned onto a standard infant formula. At one month old, after the introduction of the standard infant formula, Baby I presented with eczema, colic, crying, vomiting, reflux, constipation and was inconsolable. At four months, Baby I's general practitioner (GP) suspected cow's milk allergy.

MANAGEMENT

From one to four months old she continued to be fed with a standard infant formula. At four months old, complementary feeding was commenced and Baby I's GP prescribed her an JHF, Pepti Syneo. This feed change resulted in a slight improvement to Baby I's eczema and behaviour, but had no effect on her constipation. She was also prescribed antihistamines and local skin steroids, but her eczema remained very itchy.

Cow's milk allergy was suspected based on her clinical presentation; she displayed a combination of GI and dermatological symptoms when taking a standard infant formula, and these symptoms were slightly improved following the introduction of Pepti Syneo. Baby I was managed

FOLLOW UP CARE

The aim of Baby I's nutritional intervention was symptom improvement, particularly of her atopic eczema, vomiting and constipation. Following the failure of the eHF Pepti Syneo to effectively relieve all her symptoms, at seven months old Baby I was switched onto an amino acid-based formula, **Neocate Syneo**. **Neocate Syneo** was chosen due to positive previous experiences using the product and given that Baby I was displaying both dermatological and GI symptoms. **Neocate Syneo** was immediately well tolerated and Baby I was quickly able to meet her feed target volume of 600ml/day. Within two weeks of the switch to **Neocate Syneo**, Baby I saw a significant improvement in her gastrointestinal symptoms and after four weeks, her dermatological symptoms were improved. On Baby I's third visit to the allergology clinic, at 12 months old, her symptoms had completely resolved. Baby I was able to stop all her medications (antihistamines and local steroids).

Baby I's symptom resolution had a positive impact on her families' quality of life; her parents were very satisfied with the formula, Baby I's compliance was very good and her crying was reduced.

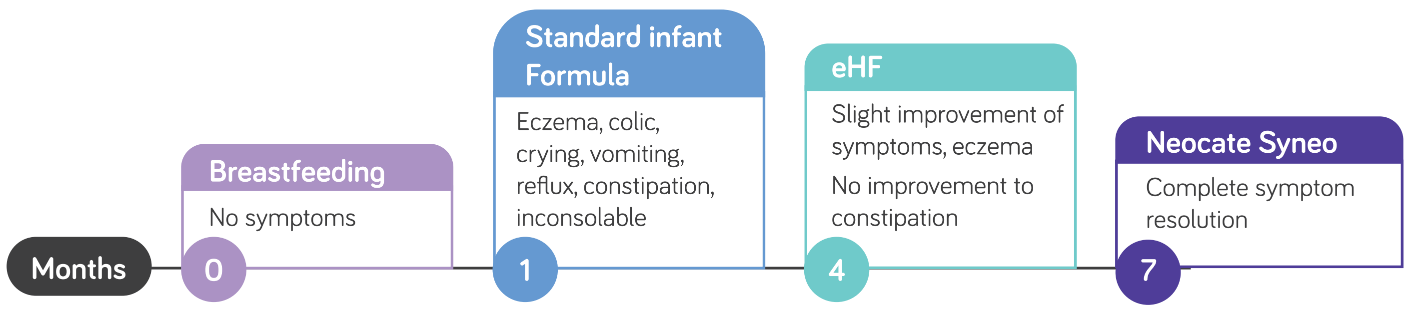
Baby I was challenged at 13 months old, but she hadn't developed tolerance. Baby I is planned to continue with **Neocate Syneo** until 15-17 months old, when another tolerance challenge with an eHF or standard infant formula is planned.

DISCUSSION

In infants with CMA, nutrition is the most important therapeutic intervention. Neocate Syneo could be important for children with persistent CMA where extensively hydrolysed formula fails; it was potentially the synbiotics in Neocate Syneo which impacted Baby I's resolution of constipation (normal stool frequency) and the improvement of her atopic eczema.

> *On Baby I's third visit to the allergology clinic, at 12 months old, her symptoms had completely resolved. Baby I was able to stop all her medications (antihistamines and local steroids).*
>
> *Neocate Syneo was very well tolerated and the switch left Baby I's parents and healthcare team very satisfied.*

Timeline



Conclusion:

Baby I experienced a complete resolution of her dermatological and GI symptoms after Neocate Syneo was commenced. Neocate Syneo was very well tolerated and the switch left Baby I's parents and healthcare team very satisfied.

Neocate Syneo is a Food for Special Medical Purposes for the dietary management of Cow's Milk Allergy, Multiple Food Protein Allergies and other conditions requiring an Amino Acid-based Formula. It must be used under medical supervision after full consideration of all feeding options, including breastfeeding.

Case Study: Baby J

6-month old girl with persistent allergic GI and skin symptoms on an extensively hydrolysed formula

Rosan Meyer
Paediatric Dietitian

BACKGROUND

Baby J was born at full term via a C-section. Whilst in hospital breastfeeding was commenced and she continued to be exclusively breastfed for 1 month.

A top-up standard infant formula was then introduced and following this gastrointestinal symptoms developed as well as some atopic dermatitis. The presenting symptoms included colicky abdominal pain, constipation, back-arching and screaming after feeds and progressively she developed both breast and bottle aversion. A series of feed changes occurred, including anti-regurgitation formula and addition of Gaviscon into her formula, which had no impact but made her constipation worse. As time progressed, her feeding aversions deteriorated to such an extent, that feeds would take up to 2 hours (both breast and bottle) and she would only take dream feeds.

In her family history it was noted that both parents had hay fever. At birth her weight was on the 25th centile, there was no length measured at birth, but at 6 weeks she was on the 50th centile. She continued to track on these centiles and at the time of the appointment was on the 50th centile for weight.

MANAGEMENT

At the first appointment, Baby J was 5 months of age and a non-IgE mediated allergy was suspected. As such, it was recommended that Mum commence on a milk and soya elimination diet and Baby J start on an extensively hydrolysed whey formula as top-up formula.

This suggestion was in line with current iMAP and BSACI recommendations.[1,2] Soya elimination was suggested in addition to the elimination of cow's milk due to the evidence that around 50% of children with non-IgE mediated allergies to cow's milk also have a soya milk allergy and because she was <6 months of age, which was in line with current recommendations.[1-3]

Mum verbalised at this appointment, that she was too tired to continue breastfeeding and go on an elimination diet and Baby J was therefore fully switched onto the extensively hydrolysed whey formula.

The aim was that she consumes at least 600ml of the formula during the day and she remained on a milk and soya elimination diet for 4 weeks, to establish symptom improvement.

No skin prick test or specific IgE tests were performed as she was exhibiting symptoms associated with a non-IgE mediated allergy and eczema was very mild.[4]

Advice was given at that appointment also regarding milk and soya free complementary food, including advice on when to introduce other allergens outside of milk and soya.

After 4 weeks, Mum returned to clinic and reported that although eczema was much improved and there were some improvements in her gastrointestinal symptoms (less pain), her constipation and aversive feeding remained and her night-times were very disrupted due to abdominal discomfort / pain. Reassuringly, her growth continued along the same centiles for both weight and length, which is a common phenomenon in children with food allergies.[5]

An amino acid formula was recommended following this consultation due to ongoing symptoms, which was in line with current guidelines.[1,2,6] Within 48 hours of the appointment, a message was received that Baby J was doing much better and she was starting to show interest also in taking a bottle outside of sleep time. However, her constipation remained, as she continued to strain for hours before producing a loose stool. It was advised that she continue with this amino acid formula and milk and soya free complementary foods for another 3 weeks and then a reintroduction of cow's milk based formula was recommended using the iMAP protocol.[1] Within 24 hours of the re-introduction of cow's milk based formula, her symptoms returned, confirming a non-IgE mediated cow's milk allergy.

As the constipation continued a decision was made to change her amino acid formula to one containing a synbiotic blend in the hope of improving her stooling pattern (1 stool every 4 days). She was switched over 1 week (each day increasing the ratio by 1 fl oz) to ensure tolerance and using this approach no gastrointestinal side effects were reported. Although she remained constipated her frequency improved to 1 stool every 3 days following the switch and the parents were advised to keep her on this formula, whilst expanding her complementary foods.

DISCUSSION

The role of pre- and probiotics have been studied extensively in food allergies and it is known that gut microbiota play an important role in prevention and tolerance development.[7,8] In addition, it is known that breast milk, a rich source of both pre and probiotics contribute significantly towards the development of the immune system, the development of tolerance and also impacts on stool frequency and consistency.[9] In this case, breast milk was no longer available and Baby J had ongoing symptoms of constipation on the standard amino acid blend. Safety data was recently published on an amino acid formula with synbiotics indicating good growth and tolerance.[10,11] In addition the study by Candy et al.[12] on non-IgE mediated cow's milk allergy indicated improved Bifidobacteria levels and ratio of Eubacterium rectales/Clostridium coccoides, which was a good motivation to change the formula. Although only a mild improvement in constipation was seen, it was thought that the evidence on improved bacterial flora was worth continuing on this formula.

Conclusion:

- When symptoms continue on an extensively hydrolysed formula it is important to trial an amino acid formula for 4 weeks followed by reintroduction of cow's milk in the child's diet.
- The amino acid formula with synbiotics (Neocate Syneo) was well tolerated in a child with non-IgE mediated allergies.
- The amino acid formula with synbiotics (Neocate Syneo) has a positive impact on the bacterial flora in children with non-IgE mediated allergies.

Product Usage

- [x] ORAL NUTRITIONAL SUPPLEMENT
- [ ] TUBE FEED
- [ ] SOLE SOURCE OF NUTRITION
- [x] SUPPLEMENT TO AN ELIMINATION DIET

CALORIE DENSITY: 0.68 KCAL/ML (STANDARD CONCENTRATION)

Patient Profile

- [x] ANAPHYLAXIS
- [ ] ATOPIC DERMATITIS (AD)
- [ ] FALTERING GROWTH
- [ ] MULTIPLE FOOD ALLERGIES (MFA)
- [x] GI SYMPTOMS
- [ ] SYMPTOMATIC ON BREAST MILK
- [x] SYMPTOMATIC ON AN EHF

Neocate Syneo is a Food for Special Medical Purposes for the dietary management of Cow's Milk Allergy, Multiple Food Protein Allergies and other conditions requiring an Amino Acid-based Formula. It must be used under medical supervision after full consideration of all feeding options, including breastfeeding.

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Case Study: Baby K

Use of Neocate Syneo in a food allergic infant

Paediatric Allergy Dietitian

BACKGROUND / SUMMARY

Baby K was referred at 7 months of age for dietetic assessment and management of his multiple food allergies (IgE and non-IgE mediated), eosinophilic osophagitis and growth concerns.

There is a family history of atopy and he was born by emergency caesarean section at term. He was given antibiotics at birth for 5 days due to maternal pyrexia. Maternal antibiotics were also administered; all of which are factors which potentially affected his and his mother's microbiome.

Baby K was discharged home on day two on exclusive breastfeeds. He continued to be exclusively breastfed until solids were introduced around 6 months of age. He was happy, well and content for the first few months of life, without any growth concerns.

Baby K developed widespread eczema at 2 months, which failed to respond to regular emollient usage and 1% Hydrocortisone. Mum removed milk and soya from her own diet due to concerns these foods were making his skin worse and because her older child had non-IgE mediated CMPA manifesting in eczema as an infant and therefore had previously followed an elimination diet herself.

The eczema improved, however remained problematic and at 4 months he was seen by a Consultant Allergist, who recommended regular emollient application, Daktacort on the face and neck and Eumovate on the body, alongside continued maternal exclusion of milk and a soya free diet.

Once the eczema was well controlled a trial reintroduction of milk and/or soya back into Mum's diet was recommended to assess tolerance.

Symptoms of vomiting, food refusal and poor growth began after solids were introduced and coincided with the introduction of soya around 6 months of age.

CLINICAL PRESENTATION

Problems:

- **Eosinophilic Oesophagitis** (on six-food-elimination diet, as recommended by Paediatric Gastroenterologist)
- **Gastrointestinal** (food allergy)
- **Atopic Eczema**
- **IgE mediated wheat and lentil allergy**
- **Sensitised to peanut, sesame and multiple tree nuts**

Solids were introduced around 6 months and he was weaned onto a milk and soya free diet. When solids were introduced Baby K experienced constipation, passing hard dry stools, every 2-3 days with straining and discomfort. Around this time Mum removed egg from her own diet in addition due to concerns that egg was worsening these symptoms, which seemed to help Baby K's bowel opening.

Once he was established on two meals and a variety of foods, mum trialed a 3-day introduction of soya formula to Baby K. This resulted in a sudden onset of forceful, blood stained vomiting and a single episode of frank haematemesis, following which Baby K was admitted to hospital. Blood tests revealed a haemoglobin drop, significant eosinophilia and raised white cell count.

Baby K underwent an ultra sound, which was normal and was discharged home following initiation of Omeprazole (20mg BD).

He remained symptomatic with regular vomiting after meals and breastfeeds and was beginning to show signs of food refusal. He was therefore seen by a Paediatric Gastroenterologist who conducted an upper GI endoscopy, which revealed significant inflammation, limited largely to the oesophagus with greater than 70 eosinophils per high power field, following which he was diagnosed with Eosinophilic Oesophagitis (EoE). He was started on a six-food elimination diet (avoiding milk, egg, soy, wheat, nuts and shellfish) and Budesonide 0.5 mg od. He also under went skin prick testing which showed marked sensitisation to multiple foods (see Table 1 for more details).

MANAGEMENT

Dietetic assessment:

Baby K was initially referred to a Dietitian at 7 ½ months of age following his diagnosis of EoE and multiple food allergies. At the time he was breastfed on demand (with Mum avoiding cow's milk, soya and egg and taking a calcium and vitamin D supplement) and taking expressed breastmilk (EBM) from a bottle. He had just started on Budesamide and a six-food elimination diet but remained uncomfortable. The vomiting after meals had improved but he continued to vomit intermittently (often twice daily) and was exhibiting signs of feeding aversion. He had previously accepted a variety of textures (puree, lumpy and finger foods), however following the onset of regular vomiting, he had become fussy at meals times, preferring small smooth purees and sweeter foods and refusing all lumpy, textured and finger foods. He was taking a multivitamin supplement daily.

He drank 2-3 bottles of EBM daily (drinking 100-150ml which had fallen from 180 - 200ml at a time). Mum was keen to introduce formula in addition to breastfeeding, as she had returned to work and was finding it hard to express enough breastmilk, she explained that she was also finding the milk, soya and egg free diet difficult to follow.

Growth:

On initial assessment Baby K's weight had fallen from the 50th centile (before 6 months and the onset of symptoms) to the 9th-25th centile and his length falling from 50th to 25th centile. See Table 2 and growth chart for further details. His recent blood tests revealed that his haemoglobin, ferritin and iron levels were all now within the normal range.

Aims of nutritional intervention:

- Ensure adequate oral intake for Baby K to support development and catch up growth.
- Aid symptom control through adherence to a milk, soya, egg, wheat, shellfish, peanut, tree nut, sesame and lentil free diet.
- Support Mum with milk, soya and egg free diet whilst breastfeeding, ensuring adequate macro- and micronutrient intake.
- Support parents with the introduction of hypoallergenic formula alongside breastfeeding.
- Support Mum regarding practical advice to aid food behaviours.

Dietetic management plan:

- Prescription of Neocate Syneo following Mum's request to introduce formula in addition to breastfeeds.

  Rationale: In accordance with DRACMA, BSACI, ESPGHAN and iMAP guidelines an amino-acid formula was used rather than extensively hydrolysed formula due to his diagnosis of EoE. Neocate Syneo was chosen over other amino-acid formulas as Mum expressed a desire to use probiotics and considering the multiple factors for Baby K which may have had a negative impact on the microbiome this was the most suitable formula.

  Potential factors to consider: Introducing hypoallergenic formula at this age can be challenging due to the taste of these formulas
- Dietetic counselling was provided on the introduction of the formula (e.g. Neocate Syneo can be mixed with EBM and must then be used straight away), formula preparation, storage and potential short-term side effects.
- Advice regarding allergen avoidance for Mum and baby and support regarding food refusal was provided.

Dietetic Review

A review at 9 months of age revealed that his vomiting had stopped. He was taking 500ml Neocate Syneo daily providing 61ml/kg, 42kcal/kg and 1.2g protein/kg in addition to breastfeeds on demand which were predominately overnight. He had started accepting and enjoying a variety of foods however textures remained an issue. His weight had increased towards the 25th centile and his length remained on the 50th centile.

Mum explained that she had introduced the Neocate Syneo as recommended over a gradual period of 2 weeks (initially offering 25ml (25%) Neocate Syneo and 75ml EBM (75%) for 3-4 days then moving on to 50%/50%, 75%/25%, she noticed a slight increase in abdominal distension and flatulence however this improved after one week. No other side effects were noted.

DISCUSSION

- This case highlights the successful introduction of Neocate Syneo in to the diet of a 7 month old infant with a complex presentation with EoE, multiple food allergies and growth concerns. The advice and support of the Dietitian is paramount in complex cases such as these and vital to assist parents with the introduction of hypoallergenic formulas at this age.
- Neocate Syneo, which contains synbiotics, was recommended over other amino-acid formulas due to the potential benefits of the addition of pre- and probiotics considering the multiple factors that may have negatively impacted on Baby K's microbiome and due to mum's interest in probiotics.

Conclusion:

- Neocate Syneo was successfully introduced into the diet of this 7 month old infant and was tolerated.

Product Usage

- [x] ORAL NUTRITIONAL SUPPLEMENT
- [ ] TUBE FEED
- [ ] SOLE SOURCE OF NUTRITION
- [x] SUPPLEMENT TO AN ELIMINATION DIET

CALORIE DENSITY: 0.68 KCAL/ML
(STANDARD CONCENTRATION)

Patient Profile

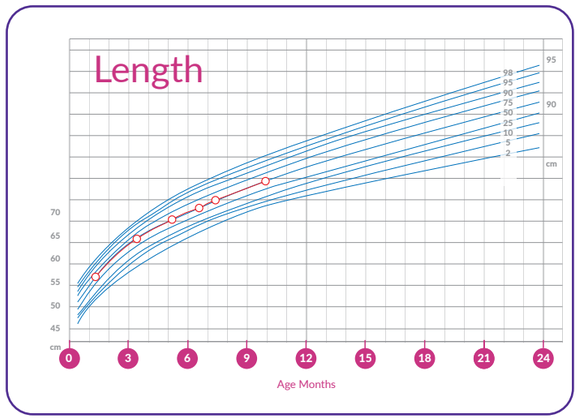
- [ ] ANAPHYLAXIS
- [x] ATOPIC DERMATITIS (AD)
- [x] FALTERING GROWTH
- [x] MULTIPLE FOOD ALLERGIES (MFA)
- [x] GI SYMPTOMS
- [x] SYMPTOMATIC ON BREAST MILK
- [ ] SYMPTOMATIC ON AN EHF

Neocate Syneo is a Food for Special Medical Purposes for the dietary management of Cow's Milk Allergy, Multiple Food Protein Allergies and other conditions requiring an Amino Acid-based Formula. It must be used under medical supervision after consideration of all feeding options, including breastfeeding.

Table 1. Skin Prick Test Results for Baby K

Food	Skin Prick Test Result (mm)
Cow's Milk (fresh)	22
Egg	0
Soya	0
Wheat	5
Sesame	7
Peanut	5
Almond	5
Cashew	0
Walnut	0
Hazelnut	3
Lentil	10

Figure1. Growth Chart



Case Study: Baby L

4.5 month old girl with Food Protein-Induced Enterocolitis Syndrome (FPIES) to multiple foods and faltering growth

Carina Venter
Wjlnxyjwji%njyynfs

CLINICAL PRESENTATION

Baby L is a 4.5 month old girl with faltering growth in a setting of acute FPIES to rice and oat (later to sweet potato) and chronic FPIES to milk (confirmed at 9 months of age with oral food challenge) and soy (not confirmed).

BACKGROUND

Baby L was exclusively breastfed until 4 months when her mother noticed that her stools were like "watery diarrhoea" and her growth slowed. Her mother stopped eating milk products and replaced with soy but symptoms did not improve. When both milk and soy were discontinued from the maternal diet diarrhoea resolved and growth improved.

At 4 months of age Baby L was introduced to baby rice cereal. A few hours later, she vomited profusely and became limp and lethargic. The next week, she was introduced to baby oat cereal and the same reaction occurred. Mum continued to breastfeed (excluding milk and soy from her own diet) and only introduced Baby L to apple sauce and carrot puree.

Baby L was born on the 50th centile for height and 15th centile for weight. At 4.5 months of age her height was now between the 15th and 50th centiles and her weight between 3rd and 15th centiles (see growth chart).

Baby L has a family history of atopy. Her mother has melon, avocado and latex allergy (IgE mediated) with a history of anaphylaxis.

MANAGEMENT

First appointment (at 4.5 months of age)

Baby L was diagnosed with acute FPIES to rice and oat and advised to introduce corn, but delay introduction of wheat, rye and barley from infant diet. She was also diagnosed with possible chronic FPIES to milk and soy via breastmilk[1,2] and her mother was advised to continue to avoid these from her and her infant's diet. She was provided with a list of foods to introduce at home - broccoli, cauliflower, pumpkin, berries, peach, plum/prunes, beef, pork, lamb, quinoa cereal, millet - according to IFPIES guidelines[3] (see Table 1).

Baby L's mother was not interested in a supplementary feed despite suboptimal growth and nutritional follow-up was recommended in one month.

Second appointment (at 5.5 months of age)

At 5.6kg, Baby L's weight had now dropped to the 3rd centile; her length of 62.1cm continued to track between the 3rd and 15th centiles. Her mother was exhausted from breastfeeding and enquired about a supplementary feed. An amino acid formula was suggested due to growth faltering and scheduled cow's milk FPIES challenge.

Baby L's mother had read up about "gut health" and the importance of gut bacteria in tolerance development. We chose Neocate Syneo because of the added synbiotic blend, despite the current lack of evidence regarding tolerance development in FPIES. Her energy needs were estimated to be 105 kcal/kg/day (588 kcal) and her protein needs to be 1.82g/kg/day (10.2g protein)[4].

Mum was recommended to provide about 50% Baby L's kcal requirements from Neocate Syneo (420mls or 15 fl oz of Neocate Syneo which will provide 8.2g protein).

Baby L had tolerated broccoli, berries, peach, quinoa and millet. She was now recommended to increase fruit, vegetables and meat using the IFPIES table and try melon, avocado, fish, rye and barley, cauliflower, lamb, beef, peach, plum, pumpkin and millet.

The importance of protein intake for length gain was emphasized. Baby L's mother was asked to report on height and weight regularly.

Third appointment (at 9 months of age)

Baby L reacted to sweet potato at 6.5 months and again to rice and oat at 7.5 months. Milk FPIES challenge was positive at 9 months and soy FPIES challenge deferred until after 12 months of age. Some feeding difficulties were reported with Baby L gagging on any textured foods. Advice was provided on textures and texture progression (to consider referral to feeding team if this does not improve).

Length: 62 cm (just under 15th centile)

Weight: 5.6 kg (3rd centile)

Fourth appointment (at 11 months of age)

Baby L is now able to eat much more textured foods - i.e. lumpy food, mashed food, hold foods in hand and feed herself (soft boiled carrot sticks) - with no involvement of feeding team.

Length: 70 cm (just under 50th centile)

Weight: 8.2 kg (between 15th and 50th centile)

She eats 3 meals per day with foods from all food groups:

- Grains (have introduced wheat successfully, now eating corn, rye, barley, quinoa)
- Variety of Fruit and Vegetables (successfully introduced melon and avocado, avoiding sweet potato)
- Meat, chicken and fish
- Avoiding all soy and dairy (also from maternal diet)
- Taking 6-7 fl oz Neocate Syneo plus 3-4 breast feeds per day

Consequently, growth much improved (see Growth Chart).

Fifth appointment (at 17 months)

Passed sweet potato and soy challenge and successfully introduced. Breastfeeding discontinued.

Now taking 12 – 14oz Neocate Junior with prebiotics since 13 months.

Avoiding: milk, rice and oats.

Height: 80 cm (between 50th centile)

Weight: 10.4 kg (50th centile)

DISCUSSION

FPIES presents in infancy, a time of rapid growth and development. One of the challenges with FPIES is diagnosing food triggers (by food challenge) whilst ensuring an age appropriate elimination diet. In Baby L's case, goals of management were to:

1. Increase diet diversity whilst avoiding known allergens
2. Provide adequate kcal and protein for growth
3. Ensure suitable textures.

Conclusion:

- In this case study Neocate Syneo was successfully used as a supplementary feed in combination with breastfeeding and dietary advice (to optimise dietary diversity and ensure suitable textures) to restore growth in an infant with FPIES to multiple foods and faltering growth.

Product Usage

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Patient Profile

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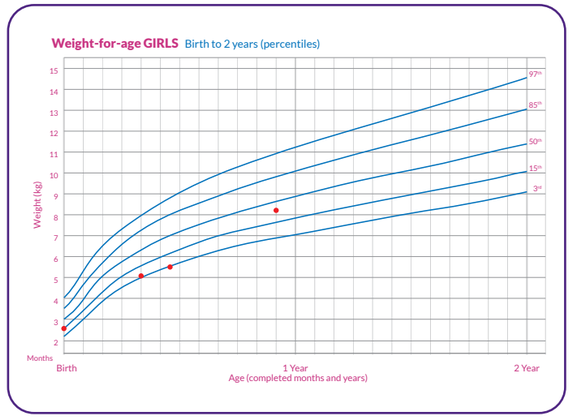
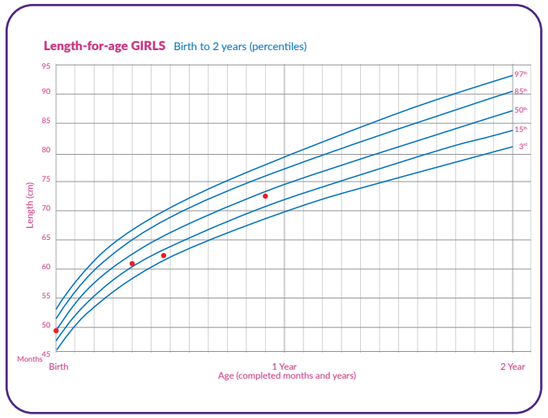
- [x] FALTERING GROWTH
- [x] MULTIPLE FOOD ALLERGIES (MFA)
- [x] GI SYMPTOMS (FPIES)
- [x] SYMPTOMATIC ON BREAST MILK
- [ ] SYMPTOMATIC ON AN EHF

Neocate Syneo is a Food for Special Medical Purposes for the dietary management of Cow's Milk Allergy, Multiple Food Protein Allergies and other conditions requiring an Amino Acid-based Formula. It must be used under medical supervision after full consideration of all feeding options, including breastfeeding.

TABLE IX. Empiric Guidelines for Selecting Weaning Foods in Infants with FPIES

Ages and stages	Lower-risk foods*	Moderate-risk foods*	Higher-risk foods*
4-6 months (as per AAP, CoN)	Vegetables		
If developmentally appropriate and safe and nutritious foods are available: • Begin with smooth, thin purees and progress to thicker purees • Choose foods that are high in iron • Add vegetables and fruits	Broccoli, cauliflower, parsnip, turnip, pumpkin	Squash, carrot, white potato, green bean (legume)	Sweet potato, green pea (legume)
6 months (as per WHO)	Fruits		
Complementary feeding should begin no later than 6 month of age: • In the breastfed infant, high-iron foods or supplemental iron (1 mg/kg/d) are suggested by 6 months of age • Continue to expand variety of fruits, vegetables, legumes, grains, meats, and other foods as tolerated	Blueberries, strawberries, plum, watermelon, peach, avocado	Apple, pear, orange	Banana
8 months of age or when developmentally appropriate	High-iron foods		
• Offer soft-cooked and bite-and-dissolve and corn cereal, wheat	Lamb, fortified quinoa cereal, millet Higher-iron foods: fortified, textures from around 8 months of infant rice and oat cereals tolerated by infant	(whole wheat and fortified), fortified barley cereal	Beef, fortified grits age or as
12 months of age or when developmentally appropriate	Other		
• Offer modified tolerated foods from the family: egg, table-chopped meats, soft cooked vegetables, grains, and fruits	Tree nuts and seed butters* (sesame, sunflower, etc.) *Thinned with water or infant puree for appropriate infant texture and to prevent choking	Peanut, other legumes (other than green pea)	Milk, soy, poultry, fish





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Case Study: Baby M

Breast fed 8-month old boy with persistent allergic symptoms of atopic dematitis, faltering growth and loose stools

Raquel Durban
Paediatric Dietitian

CLINICAL PRESENTATION

Baby M is an 8-month old infant with multiple food allergies (MFA) as well as a history of early onset severe atopic dermatitis (AD) and faltering growth. He had persistent symptoms of eczema, loose stools and faltering growth on breast milk, despite a maternal cow's milk free diet. Baby M's mother discussed stopping breast feeding, despite her emotional reluctance, and he was subsequently successfully transitioned to Neocate Syneo Infant*, with the aim of optimising his elimination diet to address unresolved allergic symptoms.

BACKGROUND

A dermatologist diagnosed Baby M with AD at 2-months of age and prescribed topical creams. He was exclusively breastfed and his mother followed a milk and soy elimination diet for two weeks. The eczema did not improve so the mother resumed consumption of milk and soy.

Baby M's mother self-referred to the allergy service when her baby was 5-months of age. He had eczema on his face, arms, legs and trunk, but most severely on his cheeks, thighs and ankles. At the time of the initial consult the patient had not been exposed to peanut and was consuming cow's milk based yogurt without hives or swelling. He was also consuming packaged infant food that may have contained or been contaminated with allergens.

MANAGEMENT

Initial assessment (at 5-months of age)

The allergist conducted skin prick testing which demonstrated a strong sensitivity to peanut and a mild sensitivity to cow's milk. Epinephrine was prescribed and an AD action plan was created to provide management of the skin.

The dietitian provided education on avoidance of milk, peanut and empirically tree nuts. A supplement of 400 IU Vitamin D was recommended as per the National Eczema Association.

Baby M's mother expressed interest in supplemental formula to allow others to participate in feeding without her having to express breast milk. Consequently, he was prescribed an amino acid-based infant formula, due to his MFA and loose stools.

3 week review (at 6-months of age)

At follow-up the family reported that Baby M had refused the formula and so his mother had continued to breastfeed for two weeks on a cow's milk restricted diet. She did not find this helpful and again reintroduced cow's milk to her and her son's diet. The eczema remained severe, the loose stools persisted and the infant's weight was static, resulting in a fall of two centiles on his growth chart (see table 1 and figure 1).

Baby M's mother discussed her plan to stop breastfeeding. The dietitian provided tips to support a gradual transition to Neocate Syneo Infant, up to 30 fluid ounces (890ml) per day. This volume of formula would provide 600 kcal (2520kJ) and 17g protein per day of an estimated requirement of 710 kcal, and 11 grams of protein per day. The remaining energy needs would be met by a variety of solid foods. Education on preparation, feeding strategies, feeding regimen and expected changes in stool due to formula containing prebiotic fibers and a probiotic was provided.

Two months later (at 8-months of age)

Upon follow up, Baby M's weight was static however, he was now accepting on average 28 fluid ounces (800ml) per day of room temperature Neocate Syneo Infant. His stools had improved with formed bowel movements for three days. The eczema persisted, however, only on his cheeks, which was likely related to breastfeeding for comfort and the mother's preference not to be on a restricted diet. The infant's acceptance of good volumes of formula and improvement in stools provided the mother with an increased confidence to wean him completely from breast milk.

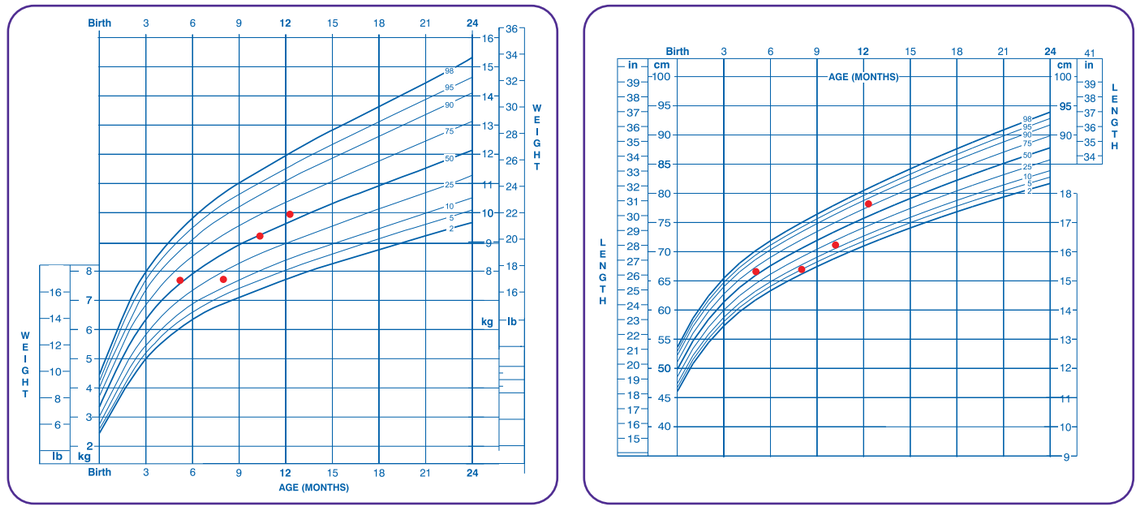
Two months later (at 10-months of age)

The family's confidence was further boosted with the noted weight gain and catch up growth between the 8 and 10-month appointments (see table 2 and figure 1). An appropriate hypoallergenic formula was able to manage the infant's symptoms and improve infant and the family's quality of life.

Table 2. Growth

Age	Length	Centile	Weight	Centile
5 months, 1 week	26.25 inches	50 - 75	17 lb (7.7kg)	50 - 75
8 months	26.25 inches	2 - 5	17lb 1oz (7.7kg)	10 - 25
10 months, 2 weeks	28 inches	10 - 25	20lb 2oz (9.1kg)	50
12 months, 2 weeks	30.75 inches	75	21lb 13oz (9.89kg)	50 - 75

Figure1. Growth Chart



Conclusion:

- In this case study, a breastfed infant with persistent gastrointestinal (GI) and skin symptoms as well as faltering growth related to food allergies, was successfully transitioned to Neocate Syneo Infant. This approach was effective in managing symptoms of MFA, namely atopic dermatitis, loose stools and growth faltering.

Product Usage

- [ ] ORAL NUTRITIONAL SUPPLEMENT
- [ ] TUBE FEED
- [ ] SOLE SOURCE OF NUTRITION
- [x] SUPPLEMENT TO AN ELIMINATION DIET

CALORIE DENSITY: 0.68 KCAL/ML (STANDARD CONCENTRATION)

Patient Profile

- [ ] ANAPHYLAXIS
- [x] ATOPIC DERMATITIS (AD)
- [x] FALTERING GROWTH
- [x] MULTIPLE FOOD ALLERGIES (MFA)
- [x] GI SYMPTOMS
- [x] SYMPTOMATIC ON BREAST MILK
- [ ] SYMPTOMATIC ON AN EHF

*Neocate Syneo Infant is the equivalent USA formulation to Neocate Syneo.
Neocate Syneo is a Food for Special Medical Purposes for the dietary management of Cow's Milk Allergy, Multiple Food Protein Allergies and other conditions where an amino acid based formula is recommended. It must be used under medical supervision after full consideration of all feeding options, including breastfeeding.

Case Study: Baby N

11-week-old girl who first attended the general paediatric clinic. She was referred by her GP due to suspected Cow's Milk Protein Allergy.

Cheryl Stephenson
Dietitian

CLINICAL PRESENTATION

Baby N is an 11-week-old girl who first attended the general paediatric clinic. She was referred by her GP due to suspected Cow's Milk Protein Allergy.

BACKGROUND

Baby N was born premature at 35 weeks via an elective C-section due to no foetal movements. She was found to be in respiratory distress, with suspected sepsis for which she was covered with IV antibiotics for 3 days. She was initially commenced on IV fluids (10% Dextrose) and then fed a mixture of expressed breast milk and cow's milk formula via a nasogastric tube, she then progressed onto bottle feeds.

During this time she presented with symptoms of loose stools, vomiting and mucous, which was ongoing after discharge. Baby N's parents requested a milk for preterm babies from their GP which improved the loose stools but the vomiting and mucous continued. Baby N then became constipated which was treated with Lactulose.

Baby N was commenced on an Amino Acid-Formula with long chain polyunsaturated fatty acids (LCP) by her GP which resolved the vomiting, however constipation became progressively worse to the point that Baby N hadn't opened her bowels for 2 weeks. The GP continued to prescribe Lactulose and added Glycerol suppositories which caused severe abdominal pain and screaming for 2 hours after opening her bowels, therefore her parents were reluctant to continue with these.

Baby N's feeding started to deteriorate only taking 1-4oz formula every 4-5 hours, and dark smelly urine was noted.

Baby N's birth weight was between the 50th and 75th centiles and despite difficulties her weight at 11 weeks when she presented in clinic was the same. There was no length measured at birth however when she attended clinic she was on the 50th centile for length.

Baby N's family history included; Mum has asthma and Dad reported a family history of gastrointestinal problems.

MANAGEMENT

At the first appointment a non-IgE mediated Cow's Milk Allergy was suspected. Baby N had already been commenced on an Amino Acid-Formula with LCP by her GP, however due to constipation with this, poor feeding was a concern as it was felt this would exacerbate constipation further. As Baby N mfi %st y% gjjs%nfq%fwji %s%s}ji sxnfjq%i wqxji %w zq%JMK.

as per iMAP guidance (Venter C, 2017), it was felt that dropping down to this might help resolve constipation and improve feeding. The aim was to have 7 x 100-110ml feeds a day every 3-4 hours, which would meet her estimated requirements (GOSH, 2018). This provided 700-770ml fluid, 469 - 516kcal and 11.2- 12.3g protein a day. It was advised that if her parents noticed a reduction in wet nappies and dark smelly urine, to go to the emergency department.

A week later a telephone review was carried out. The parents reported that Baby N was much more settled on the EHF, her bowels were opening regularly, and stools were soft and yellow. Baby N's feeding had improved, she was now taking 110ml every 4 hours. The parents were advised to continue with the EHF and continue 100ml feeds every 4 hours.

Four days later Baby N's Dad called the department. He reported that Baby N had started to projectile vomit on all feeds, she had developed a rash on her face and her stools had become loose and watery. They had attended the out of hours GP clinic over the weekend due to her symptoms and had been advised to revert back to the Amino Acid-Formula with LCP that Baby N had previously been on. Due to severe constipation and resulting feeding difficulties with this formula, it was agreed that Baby N should revert back to an Amino Acid-Formula, but to trial an Amino Acid-Formula with synbiotics Neocate Syneo, to help rebalance the faecal microbiota and subsequently soften stools (Candy, 2018).

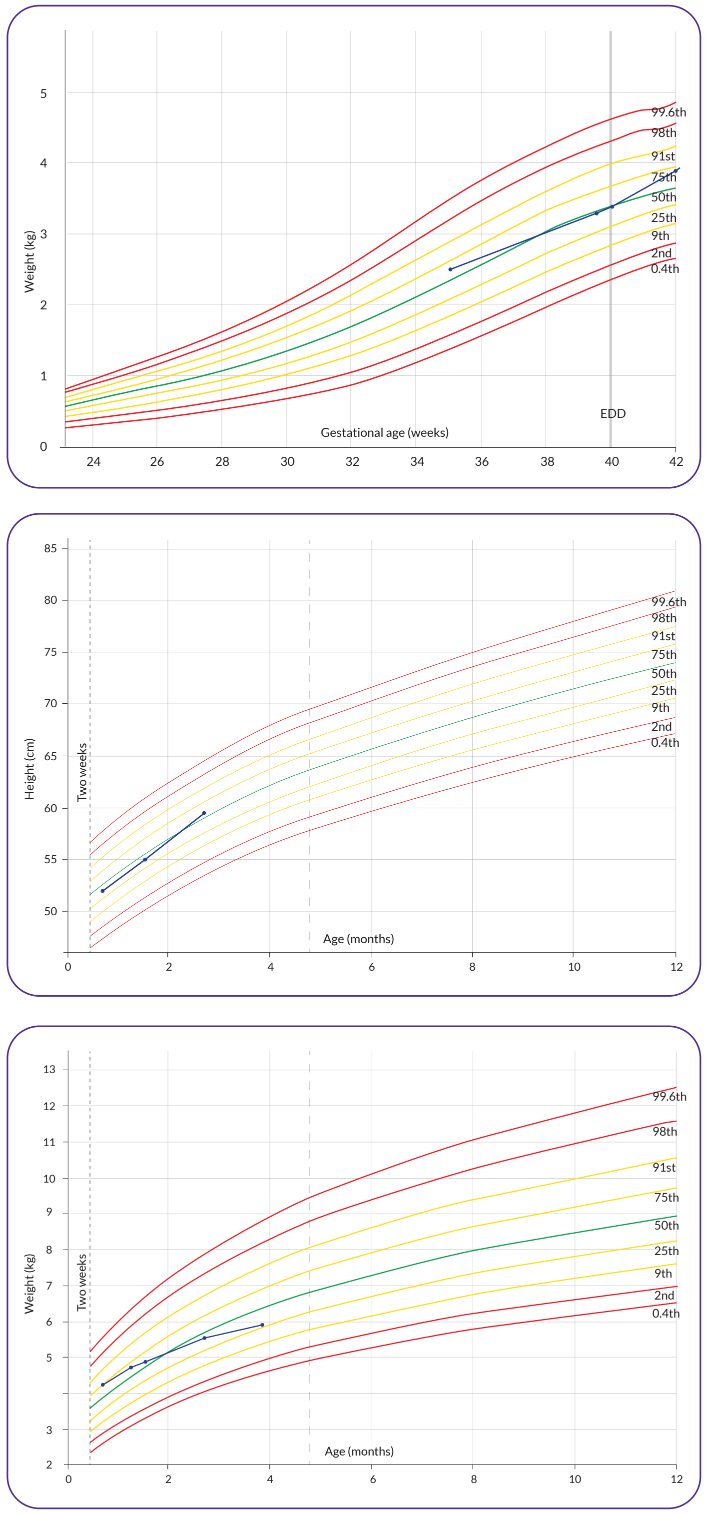
One month later Baby N came back to clinic for review. There were no concerns with her growth, both length and weight remained on the 50th centile. She was feeding well, 150-180ml every 4 hours, and her bowels were opening regularly every 2-3 days without laxatives, and her parents reported the stools were soft and yellow. Baby N was settled on feeds, and parents appeared calmer and less anxious. It was advised that Baby N continue on Neocate Syneo until at least 12 months of age, and it was advised that milk free weaning was commenced at 6 months of age. A review appointment 4 months later was arranged.

Brief telephone contact with the parents was made after 3 months (26 weeks of age). They had started introducing some milk-free weaning foods, and Baby N continued to have Neocate Syneo as her main dietary source. She remained settled, feeding well and bowels were opening regularly with soft stools. No further concerns were documented on the patient's medical record.

DISCUSSION

- Research suggests that infants with allergies have an imbalance in their gut microbiota (Wopereis, 2014).
- Preterm birth, delivery by C-section and the use of antibiotics early in infancy can have a negative impact on the development%of the gut microbiome and differences can be seen compared with infants delivered at term by vaginal delivery (Gosalbes MJ, 2013).
- Early nutrition has a significant impact on the gut microbiome, and where breast milk contains pre- and probiotics, standard%infant formula does not. Evidence suggests that adding prebiotic mixtures to infant formula can alter gastrointestinal microbiota%to resemble that of a breastfed infant which can result in better stool consistency and frequency (Vandenplas, 2014).
- In this case breast milk was not available, and Baby N had ongoing symptoms of constipation with subsequent feeding issues on% the standard amino acid blend. Constipation resolved on the synbiotic formula and eliminated the need for help with laxatives% therefore continuing with this formula was clinically beneficial.

Neocate Syneo Infant Case Study



Conclusion:

- When symptoms continue on an extensively hydrolysed formula it is important to trial an Amino Acid-Formula.
- When gastrointestinal problems such as constipation occur with an Amino Acid-Formula, an Amino Acid-Formula with synbiotics may be beneficial.
- When breast milk is unavailable, an Amino Acid-Formula with synbiotics has a positive impact on the bacterial flora in children with non-IgE mediated allergies[1].

Product Usage

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- [ ] MULTIPLE FOOD ALLERGIES (MFA)
- [x] GI SYMPTOMS
- [ ] SYMPTOMATIC ON BREAST MILK
- [x] SYMPTOMATIC ON AN EHF

Neocate Syneo is a Food for Special Medical Purposes for the dietary management of Cow's Milk Allergy, Multiple Food Protein Allergies and other conditions where an amino acid based formula is recommended. It must be used under medical supervision after full consideration of all feeding options, including breastfeeding.

REFERENCES

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SUPPORTING YOU TO SUPPORT YOUR PATIENTS

Request a product for professional evaluation via Nutricia Sampling Service*

Samples can be delivered directly to you or to your patient.

Neocate Syneo Parent Resources
Materials to help get children started on Neocate Syneo including Preparation Guide, Recipe Book & Parent Guide.

For more information, to request a sample or to order parent material please contact your Nutricia representative.

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*Product can be provided to patients upon the request of a Healthcare Professional. They are intended for the purpose of professional evaluation only.

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