



An infant with feeding difficulty, failure to thrive, gastroesophageal reflux, and suspected cow milk protein allergy achieved improved growth and symptom resolution with an amino acid formula after the infant formula shortage necessitated a change from extensively hydrolyzed formula

PATIENT HISTORY:

This case focuses on a healthy baby girl born at 39 weeks via C-Section. Breastfed the first week of her life, she had excellent growth and was a happy, content baby. At 1 week old, she was transitioned to standard infant formula bottles with subsequent increasing fussiness over time.

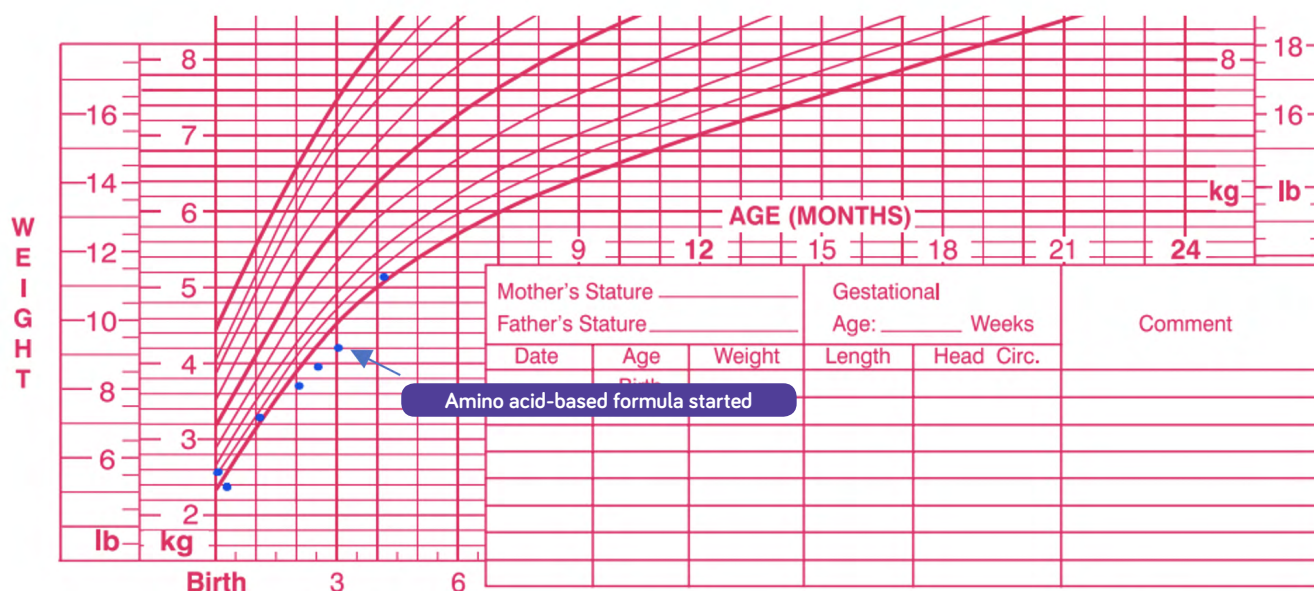
NUTRITIONAL MANAGEMENT:

Mom presented to the pediatrician's office with baby girl at 4 days after birth to discuss concerns. Her weight appeared to be down 0.2 kg, but her primary care physician (PCP) encouraged mom that some crying and fussiness were normal. At her 1- month appointment, mom reported that she was increasingly upset with feedings, but would still take bottles. PCP noted that she had gained weight but it was not ideal and asked that she return for a weight check in one month. By two months old, her gastrointestinal symptoms progressed from gassiness and spit-ups to complete refusal of feeding with only 3 oz of formula. During her 2-month well-child exam: baby girl's PCP diagnosed her with failure to thrive (FTT), and omeprazole was given for gastroesophageal reflux (GER), with no resolution of symptoms. Two weeks later, she was admitted with profuse vomiting and less than three wet diapers per day. Baby girl was changed to an extensively hydrolyzed formula in the hospital. She was evaluated by a speech-language pathologist who recommended a slow-flow nipple and identified a tongue tie requiring a frenectomy for correction. Some improvement was noted in feeding with adequate growth for 2 days, then baby girl was discharged. While home she continued excessive crying, back arching, and frequent spit-ups. A week after she returned home from the hospital baby girl's extensively hydrolyzed formula was out of stock due to the formula recall. Her primary care physician recommended a standard infant formula with rice starch, which caused her symptoms to worsen and her growth trajectory to decline. Baby girl presented to the children's gastroenterology (GI) clinic at 2.9 months due to her intolerance to a standard formula with rice starch. She had a declined (-2.53) z score in weight, and her weight for length was (-2.17). The GI Registered Dietitian (RD) changed her to an available amino acid-based formula with pre/probiotics. On the return visit at 4.4 months old, baby girl had significant improvement in her growth chart percentiles in weight (-1.98), length (-0.87), and weight for length (-1.88). Mom was happy to report that she was "a completely different baby." She was no longer crying or arching her back with feedings, and she showed excitement with the presence of a bottle. Spit-ups had ceased, and mother and baby no longer required several outfit changes daily. Much to mom's relief, they were now getting 4+ hours of sleep at a time. Baby girl presented as calm, thriving, and developmentally appropriate.

GROWTH TRENDS:

WHO Growth Chart

| Date: | Wt/age trends: | Ht/age trends: | Wt-for-Length: |
|------------|-------------------------|---------------------------|----------------|
| 10/17/2022 | 5.18 kg, 2%ile, (-1.98) | 60.96 cm, 19%ile, (-0.87) | 3%ile, (-1.88) |
| 9/3/2022 | 4.2 kg, 1%ile, (-2.53) | 57.0 cm, 11%ile, (-1.24) | 1%ile, (-2.17) |
| 8/21/2022 | 3.97 kg, 1%ile, (-2.50) | 51.2 cm, 0%ile, (-3.01) | 64%ile, (0.37) |
| 8/8/2022 | 3.7 kg, 1%ile, (-2.55) | 50.8 cm, 0%ile, (-3.16) | 71%ile, (0.51) |
| 7/8/2022 | 3.36 kg, 5%ile, (-1.66) | 48.895 cm, 1%ile, (-2.54) | 77%ile, (0.75) |
| 6/10/2022 | 2.4 kg, 1%ile, (-2.24) | 46.99 cm, 4%ile, (-1.75) | 4%ile, (-1.75) |
| 6/6/2022 | 1.6 kg, 7%ile, (-1.47) | 44 cm, 0%ile, (-2.76) | 91%ile, (1.37) |



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 SOURCE: WHO Child Growth Standards (<http://www.who.int/childgrowth/en>)

CONCLUSION:

This case reviewed a baby girl who was born on the 7th percentile, with significant GI disturbances due to a suspected cow milk allergy and FTT that impaired both the infant and her mother's quality of life. These symptoms started after weaning breastfeeding and initiation of standard infant formula. She was hospitalized at two months old and saw some clinical resolution of symptoms with the repair of a tongue tie and extensively hydrolyzed formula. Back home, awaiting referral to her local children's GI clinic, this formula became unavailable due to the 2022 formula shortage. On the initial visit to the clinic, she was changed to an amino acid formula. The RD choose Neocate® Syneo® Infant due to it being an amino acid-based formula with a synbiotic blend of pre and probiotics. As indicated in this study, Neocate Syneo Infant should be considered in infants with moderate to severe cow milk allergy whose symptoms are not resolved on an extensively hydrolyzed formula.



How Neocate product was used:

- ✓ Oral
- ✓ Sole source nutrition
- ✓ Formula calorie density: 0.6 kcal/mL

Allergic signs/symptoms & conditions present:

- ✓ Symptoms not resolved with extensively hydrolyzed formula (eHF)

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 Neocate® is a family of hypoallergenic, amino acid-based medical foods and is intended for use under medical supervision. Neocate® Junior is indicated 2for the dietary management of cow milk allergy, multiple food allergies and related GI and allergic conditions, including eosinophilic esophagitis, food protein-induced enterocolitis, short bowel syndrome, malabsorption, and gastroesophageal reflux related to food allergies.
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