Parental Concerns on Gastroesophageal Reflux

When It's More Than Just a Laundry Issue—Three Case Studies

Share this:

Heather McFadden, IBCLC, RLC^a

Parents often perceive infant gastroesophageal reflux (GER) as a serious problem. Frequently, GER is explained as a normal process, but there are instances where parents' concerns are valid. Provided are 3 case studies from the private practice of an IBCLC. Each case initially presented with what sounded like normal infant GER. Upon further evaluation, with close follow-up and more detailed history taking, each case required advanced medical attention. These cases highlight the unique role of the IBCLC in helping to assess GER, the value of working as a team member with baby's physicians, and the importance of listening carefully to parental instincts and concerns.

Keywords: breastfeeding; gastroesophageal reflux (GER); gastroesophageal reflux disease (GERD); vomiting; bilious emesis

Parents of breastfed and artificially fed infants often express concerns about their baby's gastroesophageal reflux (GER). They are sure something is wrong with their baby despite reassurance from healthcare providers of this normal physiology. In a study of 921 Japanese infants, Miyazawa et al. (2002) reported that 47.1% experienced at least one daily episode of GER at 1 month of age. The North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition (NASPGHAN) and the European Society for Pediatric Gastroenterology, Hepatology, and Nutrition (ESPGHAN) states nearly 50% of infants spit up daily in their first 3 months of life (Vandenplas et al., 2009). Furthermore, Iacono et al. (2005) found in their prospective population-based study that GER was the most common of gastrointestinal disturbances with an incidence of 23% in infants up to 6 months after birth. In situations where GER is present along with other symptoms, mainly failure to thrive or hematemesis, gastroesophageal reflux disease (GERD) is suspected (Salvatore, Hauser, Vandemaële, Novario, & Vandenplas, 2005). NASPGHAN and ESPGHAN released Clinical Practice Guidelines to assist physicians with determining whether an infant has normal GER or GERD; however, the incidence of GERD is much less prevalent than GER (Lightdale & Gremse, 2013).

Even though statistics show GER to be quite common, a pediatric practice-based study by Nelson, Chen, Syniar, and Christoffel (1997), found perceived problematic GER is brought up by parents at nearly 25% of 6 month well visits. Sun and colleagues' (2015) questionnaire showed some similar factors that influenced parents' decision to consult with doctors. Some of these factors

included infants who were born via cesarean section, premature, formula fed, given antibiotics, or seemed harder to soothe than other infants (Sun et al., 2015). In 2009, Campanozzi et al. learned in their research that parents with allergies were more inclined to report episodes of GER because of their concerns of possible inherited allergy in their infants.

It is possible these concerns are being raised because of a lack of knowledge of the normal existence of GER. Parents tend to be alarmed at seeing milk spill out of their baby's mouth and the volume and frequency of episodes can be upsetting. If breastfeeding, the mother might wonder if her diet is causing the GER. Parents who are bottle-feeding artificial milk often experiment with different formulas or they might try slower flow bottles in an effort to minimize GER from overeating. According to an older study, breastfed babies were found to experience less frequent episodes of GER than formula-fed babies (Heacock, Jefferey, Baker, & Page, 1992). More recent studies showed there was more reported GER in partially breastfed infants as compared to exclusively breastfed infants (Hegar et al., 2009) and that GER resolved sooner in breastfed infants as compared to formula-fed infants (Campanozzi et al., 2009). In contrast, in a limited study of Thai infants by Osatakul, Sriplung, Puetpaiboon, Junjana, and Chamnongpakdi (2002), as well as the study by Miyazawa et al. (2002), there was no significant difference in the number of reflux episodes between feeding methods.

Regardless of feeding method, parental concerns about GER persist. NASPGHAN and ESPGHAN recommend educating, supporting, and reassuring parents of this normal physiology (Vandenplas et al., 2009) that is likely

a. heather@heathermcfadden.com

to decrease significantly by 12 months of age (Campanozzi et al., 2009). Although this is a good starting point, IBCLCs have the opportunity to delve into these concerns by exploring the details of a baby's GER. IBCLCs can gather a history and observe a feeding and they are often present to observe the episodes of GER. This information can be shared with the baby's physicians, furthering to assist the healthcare team in ruling out possible serious conditions.

For this article it is important to point out the standard definitions, synonyms, and differences between words commonly used by parents and the medical community when discussing GER. Regurgitation, or spit-up, are synonymous with GER and are generally described as an effortless spilling of contents into the esophagus (Winter, 2017). In infants, this process is common and in most cases is the result of transient relaxations of the lower esophageal sphincter (Hegar & Vandenplas, 2013). Sometimes, episodes are not visible but might be heard as a fluid like burp, whereas others can be seen spilling into or out of the mouth (Jones, 2001). Emesis, or vomiting, is defined as a forceful expulsion of reflux out of the mouth. It can be further differentiated as being accompanied with nausea or involuntary actions such as abdominal contractions (Vandenplas et al., 1996). Bilious vomiting, or cholemesis, is characterized as being green or bright yellow in color and is suggestive of large amounts of bile being present in the gut (Di Lorenzo, 2017).

When parents describe GER they usually use words such as *spit up* or *vomit*. These words can be investigated more fully to assist in differentiating between normal GER, emesis, or bilious vomiting. IBCLCs can ask about volume, frequency, forcefulness, color, and smell. Some babies might display abdominal movements in the gut just before an episode. When GER is present with one or more other symptoms, such as poor weight gain or lethargy, further diagnostic evaluation is likely warranted. The following three cases are examples of reported and worrisome GER. Upon further evaluation by an IBCLC, and communication with the healthcare team, it was determined all three cases needed advanced medical attention.

Case 1

Mother is multiparous. Her first child was born via emergency cesarean section, and he presented with a unilateral incomplete cleft lip. According to the mother, her first baby had excessive reflux, and he was later diagnosed by a pediatric allergist as having allergies to eggs, pineapple, and tree nuts. The mother lacked breastfeeding support and failed to ever establish a full milk supply. When pregnant with her second child she

sought prenatal advice from an IBCLC. Her second baby was full term, born by elective cesarean section, and she weighed 7 lb 12 oz. The baby was placed skin to skin with the mother immediately after birth and latched right away. Phototherapy was administered for high bilirubin levels, likely because of RH incompatibility. The hospital staff discussed with parents the probability of needing to supplement with artificial milk because of the presence of jaundice and uric acid. The IBCLC came to the hospital when the baby was 36 hours of age. The baby was slightly lethargic but eager to feed when awake. The IBCLC guided the mother and baby with a deep latch and helped them into laidback positioning. She taught the mother hand expression and suggested a plan to offer both breasts per feeding and to follow up breastfeeds with supplementation of her hand-expressed colostrum. The mother and baby were discharged Day 4 exclusively breastfeeding.

The baby was thriving at the 1-month well visit, weighing 9 lb 3.6 oz. The mother discussed concerns of recent cluster feeding with the baby's pediatrician. Worried she was having low milk supply again, the mother began taking fenugreek. Soon after taking the herbal galactagogues, the baby started having episodes of GER accompanied with green, mucousy stools. Because there was a family history of GER and allergies, the mother and pediatrician suspected the GER episodes were a response to the fenugreek. It was discontinued but the episodes did not subside. Pyloric stenosis was ruled out by physical exam. The baby failed to stool for the following 2 days. When the stools returned, they were yellow and seedy but scant. Breastfeeding sessions were getting shorter, lasting approximately 10 minutes, and only on one breast.

The GER episodes increased in volume, so the mother called the pediatrician. However, over the telephone, the mother's descriptions of the GER sounded normal to the doctor. The mother's worry persisted, so she sought the support of her IBCLC again. Four days after the well visit, the baby weighed 5 oz less on the IBCLC's scale. Uric acid was once again present in her diapers. The IBCLC observed a breastfeeding on one breast that lasted only 5 minutes. Intake was 2.1 oz. A few minutes after coming off the breast, the baby exhibited strong abdominal contractions before vomiting large amounts that drenched the mother's clothing and couch. Based on the volume observed, the IBCLC decided to weigh the baby again. She had vomited the entire 2.1 oz feeding. The IBCLC communicated her findings with the pediatrician right away and the next day a computerized axial tomography (CAT) scan was ordered. The baby was diagnosed with pyloric stenosis and underwent surgery 2 days later (Figure 1). She returned to exclusive breastfeeding and is thriving.

Figure 1. Case 1, Pyloric stenosis.

Endoscopic view of thickened pylorus muscle

Incision into the wall of the pylorus

Case 2

This baby was born full term, by induction, to a 40-year-old primiparous mother. During the third trimester, the baby was diagnosed with intrauterine growth restriction and at birth he weighed 5 lb 15 oz. By Day 3 and with exclusive breastfeeding, he lost more than 10% of his birth weight and had only passed one stool right after birth. The IBCLC noted he was lethargic, falling asleep at the breast after a few minutes, with very little sucking or swallowing. It was noted the baby had a small mouth and high, narrow palate making latching to mother's large nipples a challenge.

Tongue function and sucking reflexes were assessed and appeared normal. The IBCLC taught finger feeding and suggested pumping and feeding expressed breast milk until the baby's mouth grew and milk transfer improved. Over the next 2 weeks, his weight increased, on the low range of normal. He was able to latch, but parents reported he was still very lethargic. They also voiced concerns about a newer development: Frequent episodes of GER. Both the IBCLC and pediatrician suspected he was getting overfed because of the introduction of bottles. They reassured the parents the baby was probably fine.

At the next lactation visit, the parents were taught paced bottle-feeding and the mother was introduced to a supplemental nursing system at breast. The baby slowly transferred 1.0 oz. Five minutes later, the IBCLC observed

abdominal contractions followed by a forceful expulsion of milk out of the baby's mouth. At the 6-week well visit, he was showing an average weekly weight gain of 3–4 oz. His stools became consistently green and mucousy.

His GER episodes became less frequent but continued to be forceful and large in volume despite his mother cutting dairy and soy out of her diet. The pediatrician and IBCLC suspected pyloric stenosis or other structural abnormalities, all of which were ruled out with scans. The baby's weight gain continued to slow to 1 lb per month. Further tests were ordered and finally a pediatric gastroenterologist diagnosed him with a strong case of gastroesophageal reflux disease (GERD). His doctors recommended he be fed exclusively with hydrolyzed formula until allergy tests could be run at an older age. The GER episodes became less frequent. It was later determined by a pediatric allergist that the baby had a severe egg and nut allergy, both of which were a large part of the mother's diet. Coincidentally, the baby's grandmother also had an allergy to eggs. The baby never returned to breastfeeding. He was referred to early intervention for mild developmental delays and is responding well.

Case 3

The baby was born weighing 6 lb to a 34-year-old multiparous mother. Breastfeeding went smoothly with her first child, and she believed feeding was going well

with her second child, despite the baby being diagnosed with ankyloglossia. Because of slow weight gain, the doctor recommended supplementing with artificial milk. The mother was reluctant to supplement and decided to seek the support of an IBCLC. She described her baby girl as being sleepy at the breast and reported she was having frequent large amounts of GER. The baby would only take one breast for 8–10 minutes, and if offered a supplement of expressed breast milk, it would come back up “not projectile, but in large volumes.”

During the private home consultation, the mother also reported that 12 hours prior to their appointment, the breastfeeding sessions had decreased to only 3–4 minutes at a time. More worrisome was that her GER episodes continued in large amounts and changed in color from normal white/yellow to light brown/orange. The IBCLC observed a gray pallor to the baby’s skin and a distended abdomen. According to the mother, the baby hadn’t stoolled in 2 days and had always had a big firm belly. At 19 days old, the baby was still 8 oz away from birth weight, and she had lost weight from her previous doctor visit. When offered the breast, she latched but fell asleep after 3 minutes, transferring only 0.3 oz.

While lifting the baby from the infant scale, the IBCLC heard gurgling sounds from her gut. The baby coughed and moments later vomited a brown fluid with an acidic odor (Figure 2). The IBCLC recommended taking the baby to the hospital immediately. The mother called the pediatrician who advised bringing the baby into

the office for evaluation. Upon seeing the baby, the pediatrician sent them to the ER for testing. The baby was diagnosed, by a pediatric gastroenterologist, with bowel obstruction from Hirschsprung’s disease. After irrigating her bowels, the baby was given a colostomy and she returned to normal breastfeeding while awaiting surgery.

Discussion

Although these cases are unusual, they emphasize the need for listening to parents and gathering detailed information to recognize when a situation requires further medical evaluation. As Nelson et al. (1997) found in their study, parents reporting GER also described worrisome problems associated with it such as crying, arching, and irritability. These concerns came not only from first-time parents, where anxieties are expected to be higher, but also from experienced parents who felt their infants’ GER was a problem (Nelson et al., 1997). This finding correlates with two out of the three case studies presented here.

NASPGHAN and ESPGHAN offer warning signs of more complicated GER when accompanied with other symptoms. These signs include bilious vomiting, gastrointestinal bleeding, consistent forceful vomiting, lethargy, failure to thrive, diarrhea, constipation, fever, abdominal tenderness or distension, bulging fontanelle, and documented or suspected genetic or metabolic syndromes (Vandenplas et al., 2009). Many

Figure 2. Bilious emesis.

Bilious emesis

of these signs were present in these cases. For instance, classic presentations of Hirschsprung's disease are abdominal distention and vomiting (Gunnarsdóttir & Wester, 2011), whereas atypical presentations found by Nofech-Mozes et al. (2004) are failure to gain weight, constipation, and lack of appetite. Pyloric stenosis presents with nonbilious vomiting, which may or may not be projectile, as well as dehydration, constipation, failure to gain weight, and peristaltic movements of the abdomen (Ogunlesi et al., 2016). Infants with GERD might present with poor weight gain, vomiting, abdominal pain, and inflammation of the esophagus (Rudolph et al., 2001). In these cases, despite the presence of additional symptoms, the trigger for these parents to first reach out centered around the GER.

The difficulty in distinguishing between normal and problematic GER is multifactorial. Because most infants with GER are found to be healthy, parents' reports might not always be explored fully. Parents might not mention other symptoms, either because they go unnoticed or aren't believed to be relevant. Also, some infant health issues present with more obvious or additional symptoms in the latter weeks. For example, pyloric stenosis usually presents between 3 and 8 weeks of infancy (MacMahon, 2006). In these cases, although there may have been a symptom or two present at the 10-day or 2-week well visit, reports of GER came in after that time where the babies weren't scheduled to be seen again until 4 weeks. In such instances, the nature and timeliness of the lactation visit can be crucial for infants at risk.

Conclusion

It is not within the scope of practice for IBCLCs to diagnose, but they are sometimes in the position of recognizing an infant's need for further medical attention and interventions. Breastfeeding consultations often fall between well visits when some conditions are just starting to offer clearer signs. Much can be learned by taking a full history of the baby's weight and output as well as observing the baby's overall demeanor and physical presentations. More information can be gathered by asking specific questions about the GER such as the frequency, volume, color, and smell. Perhaps most revealing can be observing a feeding, using a sensitive baby scale to assess intake, and being present to observe GER episodes. These findings should be shared with the baby's physicians to help determine if a more serious health situation exists. And, as also shown in these case studies, the parents were the first to notice something was wrong. Their instincts regarding their infants' GER as being problematic proved to be correct.

Instead of a laundry problem, parents' concerns about GER could be the first red flag to prompting a more thorough evaluation.

References

- Campanozzi, A., Boccia, G., Pensabene, L., Panetta, F., Marseglia, A., Strisciuglio, P., . . . Staiano, A. (2009). Prevalence and natural history of gastroesophageal reflux: Pediatric prospective survey. *Pediatrics*, 123(3), 779–783.
- Di Lorenzo, C. (2017). Approach to the infant with nausea and vomiting. Up to Date. Retrieved from <https://www.uptodate.com/contents/approach-to-the-infant-or-child-with-nausea-and-vomiting>
- Gunnarsdóttir, A., & Wester, T. (2011). Modern treatment of Hirschsprung's disease. *Scandinavian Journal of Surgery*, 100(4), 243–249.
- Heacock, H. J., Jeffery, H. E., Baker, J. L., & Page, M. (1992). Influence of breast versus formula milk on physiological gastroesophageal reflux in healthy, newborn infants. *Journal of Pediatric Gastroenterology and Nutrition*, 14(1), 41–46.
- Hegar, B., Dewanti, N. R., Kadim, M., Alatas, S., Firmansyah, A., & Vandenplas, Y. (2009). Natural evolution of regurgitation in healthy infants. *Acta Paediatrica*, 98(7), 1189–1193.
- Hegar, B., & Vandenplas, Y. (2013). Gastroesophageal reflux: Natural evolution, diagnostic approach and treatment. *The Turkish Journal of Pediatrics*, 55(1), 1–7.
- Iacono, G., Merolla, R., D'Amico, D., Bonci, E., Cavataio, F., Di Prima, L., . . . Carroccio, A. (2005). Gastrointestinal symptoms in infancy: A population-based prospective study. *Digestive and Liver Disease*, 37(6), 432–438.
- Jones, A. B. (2001). Gastroesophageal reflux in infants and children. When to reassure and when to go further. *Canadian Family Physician*, 47, 2045–2050, 2053.
- Lightdale, J. R., & Gremse, D. A. (2013). Gastroesophageal reflux: Management guidance for the pediatrician. *Pediatrics*, 131(5), e1684–e1695.
- MacMahon, B. (2006). The continuing enigma of pyloric stenosis of infancy: A review. *Epidemiology*, 17(2), 195–201.
- Miyazawa, R., Tomomasa, T., Kaneko, H., Tachibana, A., Ogawa, T., & Morikawa, A. (2002). Prevalence of gastro-esophageal reflux-related symptoms in Japanese infants. *Pediatrics International*, 44(5), 513–516.
- Nelson, S. P., Chen, E. H., Syniar, G. M., & Christoffel, K. K. (1997). Prevalence of symptoms of gastroesophageal reflux during infancy. A pediatric practice-based survey. *Archives of Pediatrics & Adolescent Medicine*, 151(6), 569–572.
- Nofech-Mozes, Y., Rachmel, A., Schonfeld, T., Schwarz, M., Steinberg, R., & Ashkenazi, S. (2004). Difficulties in making the diagnosis of Hirschsprung disease in early infancy. *Journal of Paediatrics and Child Health*, 40(12), 716–719.
- Ogunlesi, T. A., Kuponiyi, O. T., Nwokoro, C. C., Ogundele, I. O., Abe, G. F., & Ogunfowora, O. B. (2016). Infantile hypertrophic pyloric stenosis with unusual presentations in Sagamu, Nigeria: A case report and review of the literature. *The Pan African Medical Journal*, 24(1), 114.

- Osatakul, S., Sriplung, H., Puetpaiboon, A., Junjana, C.-O., & Chamnongpakdi, S. (2002). Prevalence and natural course of gastroesophageal reflux symptoms: A 1-year cohort study in Thai infants. *Journal of Pediatric Gastroenterology and Nutrition*, 34(1), 63–67.
- Rudolph, C. D., Mazur, L. J., Liptak, G. S., Baker, R. D., Boyle, J. T., Colletti, R. B., . . . Werlin, S. L. (2001). Guidelines for evaluation and treatment of gastroesophageal reflux in infants and children: Recommendations of the North American Society for Pediatric Gastroenterology and Nutrition. *Journal of Pediatric Gastroenterology and Nutrition*, 32(Suppl. 2), S1–S31.
- Salvatore, S., Hauser, B., Vandemaele, K., Novario, R., & Vandenplas, Y. (2005). Gastroesophageal reflux disease in infants: How much is predictable with questionnaires, pH-metry, endoscopy and histology? *Journal of Pediatric Gastroenterology and Nutrition*, 40(2), 210–215.
- Sun, H., Peters, R. L., Allen, K. J., Dharmage, S. C., Tang, M. L., Wake, M., . . . Heine, R. G. (2015). Medical intervention in parent-reported infant gastro-oesophageal reflux: A population-based study. *Journal of Paediatrics and Child Health*, 51, 515–523. <http://dx.doi.org/10.1111/jpc.12760>
- Vandenplas, Y., Belli, D., Benhamou, P. H., Cadranet, S., Cezard, J. P., Cucchiara, S., . . . Sandhu, B. K. (1996). Current concepts and issues in the management of regurgitation of infants: a reappraisal. Management guidelines from a working party. *Acta Paediatrica*, 85(5), 531–534.
- Vandenplas, Y., Rudolph, C. D., Di Lorenzo, C., Hassall, E., Liptak, G., Mazur, L., . . . Wenzl, T. G. (2009). Pediatric gastroesophageal reflux clinical practice guidelines: Joint recommendations of the North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition (NASPGHAN) and the European Society for Pediatric Gastroenterology, Hepatology, and Nutrition (ESPGHAN). *Journal of Pediatric Gastroenterology and Nutrition*, 49(4), 498–547.
- Winter, H. (2017). *Patient information: Acid reflux (gastroesophageal reflux) in infants (beyond the basics)*. Retrieved from http://www.uptodate.com/contents/acid-reflux-gastroesophageal-reflux-in-infants-beyond-the-basics?source=see_link

Acknowledgments: The author would like to thank the parents for their willingness to share their stories and the babies for the education they provided. The author would also like to thank Cathy Watson Genna, IBCLC, Dr. Corey Wasserman, Derek McFadden, DVM, and Kate Sharp, IBCLC, for their guidance and support in the writing of this article.

Heather McFadden is an IBCLC and proud member of the New York Lactation Consultant's Association. She has a private practice in New York City where she does home visits and breastfeeding clinics. She is also a La Leche League Leader in Harlem where she runs monthly series meetings.