Partially hydrolyzed protein formulas (pHFs) are increasingly used in the prevention of atopic disease and in the management of infants with functional gastrointestinal (GI) manifestations. Nowadays, pHFs are more likely to be used by primiparous women and those breastfeeding longer, and in infants with a family history of allergy. In a Cochrane review, no serious adverse events associated with pHF were reported. Adverse events were mentioned in three studies, but none was attributed to pHF. There may be a theoretical concern that both absorption and metabolism of pHF is faster than of intact protein formulas. Whether this has any impact on health outcome is not known. Long-term safety data are nonexistent.

A prospective double-blind, randomized crossover trial in 115 regurgitating infants showed a significant decrease in the mean number and volume of regurgitations with two thickened formulas, with statistically better results for pHFs. No difference was reported in stool frequency and consistency between the two groups.

Data suggest that pHFs may reduce infant colics. However, dietary changes also often include a reduction in lactose and supplementation with prebiotic oligosaccharides and structured lipids with a higher proportion of sn-2-position β-palmitate, decreasing the formation of calcium soaps. No randomized clinical trials have been performed demonstrating the efficacy of partially hydrolyzed protein as single change in the formula in infantile colic. Experience has shown that pHF can be a useful option when cow’s milk protein allergy is not a potential cause of the colic. In fact, various randomized controlled trials demonstrating the efficacy of pHFs have been published. However, the role of (reduced) lactose can be questioned, as soy formula was not associated with a decrease in infantile colic. There are insufficient data to recommend pHF as single dietary intervention in colicky infants as most studies included other dietary changes as well.
Constipation is more frequent in casein- than in whey-predominant formulas. pHFs result in more frequent and softer stools in nonconstipated infants. Significantly more stools were passed by breastfed infants and infants fed extensively hydrolyzed formula versus those receiving standard or soy-based formulas. Infants receiving breast milk or an extensively hydrolyzed formula had twice as many stools as the other formula groups. GI transit time is shorter in preterm infants fed pHF than in those fed standard formula. pHFs had a markedly shorter GI transit time (9.8 h) than standard infant formula (19 h). pHFs, fortified with pre- and/or probiotics, with high sn-2 palmitate in the fat blend or without palm oil as the main source of fat in the oil blend, have been tested lately and seem to offer a good alternative for managing functional constipation in infancy. There are no studies evaluating the efficacy of pHF as single intervention in constipated infants.

In infants with minor GI problems such as infantile colic, regurgitation and/or constipation who were fed for 14 days with a formula containing a mixture of oligosaccharides, partially hydrolyzed whey protein and low levels of lactose and palmitic acid in the β-position, a reduction in the frequency of colics and regurgitation was reported in 79 and 70% of infants, respectively, whereas an increase in defecation was noticed. Testing the same formula in 267 infants with infantile colic, the authors demonstrated a statistically significant decrease in colic episodes after 1 and 2 weeks compared to standard formula and simethicone.

In conclusion, based on the limited available literature, pHFs tend to have some beneficial effect on functional GI manifestations such as regurgitation and constipation, although the evidence is insufficient to formulate a recommendation.

**Suggested Reading**

