Although body weight was not affected, fat accumulation was reduced and lean body mass was increased in adult mice raised on CLM diet compared to CTR diet. Hence, exposure early in life to a diet with an RM-like fat quality prevented excessive fat accumulation when challenged with a moderate WSD during adulthood.

References:

Oosting et al., 2009, *J. DoHaD*, 1(1): S211-212.

Lee et al. 2002. *J. Dairy Research* 69: 555-567.

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ADULT BODY FAT ACCUMULATION IS NOT AFFECTED BY ADDING PHOSPHOLIPID-INGREDIENT AND ONLY marginally BY LIPID-DROPLET SIZE IN THE POSTNATAL DIET

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Previously, we have shown that postnatal exposure to infant milk formula (IMF) with complex lipid matrix (CLM) prevented excessive diet-induced fat accumulation in adult mice (Oosting et al., 2010). Lipid droplets in CLM have physical properties closer to breast milk, i.e. large in size and coated with phospholipids (PL). We now studied the contribution of both lipid droplet size and the mere presence of dietary PL to this beneficial, protective effect of CLM on adult body composition. Postnatally, between 16 and 42 days of age, male C57Bl/6j mice were subjected to a diet containing either standard IMF (CTR; mode 0.5 µm), CLM (mode 4.3 µm), IMF with large lipid droplet size (IMF-L; mode 4.0 µm), or IMF-L with PL present in free form, not coating the lipid droplets (IMF-PL; mode 5.0 µm). Subsequently, a moderate Western style diet (10 w% fat) was fed until dissection at 98 days of age. Body composition was monitored by dual x-ray absorptiometry. Again body fat accumulation in adulthood was reduced in the CLM diet compared to the CTR diet. Increasing the dietary lipid droplet size only marginally affected body fat accumulation. Moreover, no additional effects of added PL (IMF-PL) were observed. Although increased lipid droplet size in the postnatal diet did slightly affect adult body composition, the mere presence of PL in free form had no additional effect. Evidently other aspects of CLM contribute to the observed prevention of the Western style diet-induced fat accumulation during adulthood.

Oosting et al., 2010, *EARNEST*.

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A PILOT TRIAL ON ACCEPTABILITY, TOLERANCE, AND EFFICACY OF A THICKENED EXTENSIVE CASEIN HYDROLYSATE (ALLERNOVA AR[®])

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Rationale: Regurgitation and irritability are common in infants, and occur as manifestation of GER and cow milk allergy (CMA). Thickened formula is effective in (troublesome) regurgitation and mild GERD, and an extensive hydrolysate is recommended in CMA.

Methods: A prospective, open trial was conducted to evaluate the efficacy of an extensive casein-hydrolysate thickened with specifically treated starch in 24 infants with a suspected diagnosis of mild GERD and/or gastro-intestinal manifestations of CMA (all infants regurgitated or vomited > 4 times/day). Previous interventions (at least one dietary change and one drug for GERD) had failed in all infants. **Results.** 6/24 infants (25 %) dropped out because of pyloric stenosis (n:1), urinary tract infection (n:1), severe combined immune deficiency (n:1), no improvement of symptoms (crying and vomiting) (n:3). The formula was well tolerated in 18/24 infants, and administered up to the age of 6 months. In total, "Allernova-AR" was consumed during 2165 trial-days. Objective arguments for CMA were observed in 8/18 infants (eosinophilia (n:3), allergic colitis (n:2), partial atrophy villi (n:2); positive skin prick test (n:2)). The mean duration of feeding was 125 days. Weight and length evolution were normal. Regurgitation at baseline (mean 5.85) decreased after one week by more than 50 % (mean 2.12)(p:< 0.001). The Infant-GER-Questionnaire showed a clinical meaningful improvement of at least 5 points in all 18 infants tolerating the new formula.

Conclusion: Given the frequent simultaneous occurrence in infants of symptoms suggesting CMPA and/or GERD, Allernova-AR provides practitioners an effective and safe therapeutic option.