

# 3<sup>rd</sup> International Conference on Gastroenterology & Urology

July 28-30, 2014 DoubleTree by Hilton Hotel San Francisco Airport, USA

## “Initial hunger” for all? A study on undernourished infants

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**Aim:** A meal/satiety pattern dictated by the rhythmic arousal of Initial Hunger (IH and IHMP) is used by overweight people to decrease body weight. We however conceived IHMP to improve intestinal absorption and diminish immune involvement in intestinal mucosa as well as throughout the body (overall subclinical inflammation). The purpose of IHMP may be shown by its early employment in undernourished infants.

**Methods:** Nine malnourished infants (weight per age lower than 70%) with diarrhea in the first 15 months of age were investigated in a controlled, randomized study. Organic diseases were excluded by conventional procedures, including intestinal biopsy. Six infants were assigned to the intervention and 3 to the control group. Compliance, intake, and anthropometry were recorded in hospital for 2 months, and then by frequent visiting and 7-day home diary under intervention for 5 total times in two years.

**Results:** Six subjects under intervention and three controls were followed for at least 2 years. Energy intake decreased from 126±21 kcal/kg/d to 85±6 kcal/kg/d in treated infants and from 111±53 kcal/kg/d to 107±37 kcal/kg/d in the first 2 months of study ( $P<0.01$  on longitudinal differences). Days with vomiting became null after 2 months of treatment, whereas in control subjects, 4 or 5 events every 60 days persisted for all follow-ups. Further longitudinal differences were significant on days with diarrhea after three months, and on plasma triglycerides at the two sampled times during treatment. The difference in the Chi square for trend was significant on energy intake and in the numbers of days with vomiting or diarrhea ( $P<0.002$ ). Serum triglycerides decreased from 148±27 mg/dL to 70±10 mg/dL under intervention, and increased from 1194±7 mg/dl to 139±59mg/dl in controls ( $P<0.002$  on the difference). Values after two years of follow-ups were respectively: 73.2±12.3 mg/dL and 89±37 mg/dL ( $P<0.05$ ). Toward the end of the study, anthropometric measurements increased per age from recruitment in treated infants with differences from control subjects that were not significant in the longitudinal comparisons between groups. Weight per age reached 88.8±8.7% under intervention, and 79.7±10.2% in controls after two years (not significant). Psycho-motor development was normal except for one control infant.

**Conclusion:** High triglycerides (and associated insulin resistance with an overall subclinical inflammation) are involved in the persistence of diarrhea and on malnutrition in these undernourished infants as in the development of functional bowel disorders and overweight in adults. IHMP was an actual solution also for malnourished infants.

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