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STUDIES ON THE COLONIC FERMENTATION OF LACTOSE IN HUMANS: THE EFFECT OF COOKED BEEF ON A SIGLE GLASS OF MILK. Castillo-Durán, C.; Guerrero, A.M.; Solomons, N.W. INTA, University of Chile and Institute of Nutrition for Central America and Panama, Guatemala.

The amount of breath H<sub>2</sub> produced during the following 6 hours after the ingestion of a 240 volume of milk was used as an index of the rate of colonic fermentation of undigested lactose in 8 lactose malabsorbers guatemalan adults. Challenge included on separate days: milk alone, milk with 400 g of cooked beef added; lactose prehydrolyzed milk (Lactaid r) with 400 g of cooked beef; cooked beef alone, or fasting through the 6 hours of study. The excess excretion volumes of breath H<sub>2</sub> with the respective treatments, calculated as the mean area under the curve were higher (178 ± 31.1 ppm.h) with milk alone than milk plus beef (50 ± 17), or prehydrolyzed milk (-1 ± 26.5) (p < 0.0001). The peak increments showed similar trends, with the 8 subjects over 20 ppm of breath H<sub>2</sub> with milk alone, 2 out of 8 with milk and beef and none with hydrolyzed milk, beef or fasting. Mean peak increment were 38.6 ± 13.4; 12.1 ± 8.8 and 3.8 ± 3.2 for milk, milk and beef or hydrolyzed milk, respectively. Thus cooked beef significantly reduces the rate of appearance of intact lactose in the large bowel of lactase deficient adults.

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CONSUMPTION OF IRON FORTIFIED MILK DOES NOT MODIFY BOWEL BACTERIAL ECOLOGY. Figueroa, G.; Galeno, H.; Troncoso, M. Unidad de Microbiología, INFA, Universidad de Chile Casilla 15138, Santiago 11, Chile.

Bacterial enteropathogens (BP) were prospectively evaluated in a cohort of infants of low socio-economic status. One group consumed an iron fortified milk formula (IF) and a control group was fed a similar non fortified milk (NF). A total of 578 diarrheal (D) episodes (290 IF and 288 NF) and 615 asymptomatic (A) infants (300 IF; 315 NF) had stool cultures. The incidence of BP was similar in IF and NF infants in symptomatics (42 - 40%) and asymptomatics (15 - 13%). The number of cases with mixed bacterial infections and/or protracted excretion (> 7 days), as well as the species distribution (see table) did not show significant differences between IF and NF groups, either for the diarrheal episodes or the asymptomatics.

	D		A	
	IF	NF	IF	NF
ENTEROPATH. E. COLI	21.0%	17.4%	9.0%	6.0%
CAMPYLOBACTER	11.7%	10.8%	3.3%	5.7%
SHIGELLA	6.6%	9.7%	0.3%	0.0%
TOXIGENIC E. COLI	2.8%	3.1%	2.7%	1.9%
SALMONELLA	2.8%	1.7%	0.0%	0.3%
INVASIVE E. COLI	2.0%	1.7%	0.0%	0.6%
AEROMONAS*	1.4%	1.4%	0.7%	0.0%

\* Includes only pathogenic strains.

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DUBOWITZ SYNDROME AND PARTIAL DELETION 4q(q28→q313) Del Rey, G.; Opelli, S.; Heinrich, J.; Coco, R.; Cedie. Div. of Endocrinology, Hospital de Niños "R. Gutierrez", Buenos Aires, Argentina.

Dubowitz Syndrome presumed autosomal recessive etiology, is characterized by intrauterine growth retardation, unusual facies, marked microcephaly, moderate mental retardation and eczema. A nine year old girl with Dubowitz Syndrome and an abnormal-46, XX, del (4q) (q28→q313) karyotype is described. The child was the product of the second uneventful pregnancy of non-consanguineous healthy parents. She was small for date and developed growth retardation, peculiar facies, eczema of the scalp skin and generalized skin rash. Her psychomotor development was normal. Physical examination showed low height, weight and head circumference, beside several minor anomalies such as: unusual facies, sparse hair, bilateral palpebral epicanthus, highly arched palate, marked micrognathia, low set small malrotated dysplastic ears, increased intermamillary distance, syndactyly of the second and third toes, scoliosis and pes planus. Parent's chromosomal analysis with high resolution methodology were interpreted as normal, although a paracentric inversion involving the deleted chromosomal segment of the propositus could not be totally ruled out. The different cases of deletions of 4q chromosome reviewed, allows us to suggest that Dubowitz Syndrome phenotype may be due to a partial deficiency of the long arm of chromosome number 4, from 4q28 to 4q313.

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THYROID DYSFUNCTION IN MALIGNANT LYMPHOMA. Pascualini, T.; Iorcansky, S.; Gruñero, L.; Diez, B.; Pavlovsky, S.; Sackmann-Muriel, F.; Rivarola, M.A. CEDIE-Oncología, Htal. Niños, Academia de Medicina, Buenos Aires, Argentina.

Retarded effects of the radiotherapy to the neck and/or polychemotherapy on the thyroid were investigated in 66 patients (P), 47 with Hodgkin's disease (HD) and 19 with non-Hodgkin's lymphoma (NHL). Two, recently diagnosed, untreated P, were also studied. Age ranged from 6.2 to 52 years (median 13.5). Patients were divided in 3 groups: a-) 29 P treated with chemo and radiotherapy (radiation dose to the thyroid ranged from 300 to 6300r, median 3000); b-) 37 P with chemotherapy and c-) 2 P without treatment. Group a: 16 P (55%) showed an elevated basal and/or post TRH, TSH value; 7 (23%) of 28 P studied had positive antimicrosomal thyroid antibody titers (AM Ab); diagnosis of papillary carcinoma was made in 1 P. Prevalence of high TSH level was 33% within 2 years of radiotherapy and 66% after 61 months. Group b: 11 (30%) of 36 P showed elevated TSH levels; 9 (27%) of 33 P had positive AM Ab. Group c: 1 P with HD had goiter, elevated TSH levels and negative AM Ab. Sixteen (24%) of 61 P studied post-treatment had positive AM Ab. Higher frequency of high TSH levels was observed in P receiving radiotherapy (55 vs 30%). With longer intervals free of treatment, the prevalence increased. Prevalence of positive AM Ab was higher in our P than in our normal population (26 vs 4.4%). A genetic predisposition to autoimmune thyroid disease cannot be ruled out and the influence of treatment is difficult to assess.

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ADVERSE EFFECT OF IRON DEFICIENCY ANEMIA ON INFANT PSYCOMOTOR DEVELOPMENT. Walter, R.; De Andraca, I. Chadud, P.; Perales, C.G. INTA, U. de Chile, Chile.

In a prospective study of a cohort of 196 infants followed from birth to 15 months of age we studied the effect of iron status at 9 and 12 months on a) psychomotor development at 12 mo; b) short term iron therapy (10d) and c) long term iron treatment (3 months). Infants were classified as 39 anemic, 30 controls and 127 iron deficient without anemia. Anemic infants had mental and psychomotor development scores significantly lower (p < 0.0001) than both controls and iron deficient anemia. No differences were detected after 10 days or 3 months of iron therapy demonstrating a long term effect. A lower hemoglobin and longer duration of anemia were correlated to poorer scores. Specific areas of impairment were language acquisition and body balance leading to walking. These results, in a study where intervening variables were carefully controlled suggest that iron deficiency anemia has an adverse effect on infant development and that this effect is not reverted after treatment of anemia.

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ANEMIA IN A MILD VIRAL INFECTION. Olivares, M.; Walter, T.; Chadud, P.; Schlesinger, L.; Arevalo, M.; Stekel, A. INTA, U. de Chile, Chile.

In 92 one year old infants the measles vaccine was used as a model of a reproducible mild viral infection. On day 0 and two days 4 and 21 or 9 and 14 or 9 and 30 post vaccination, hematologic evaluations were performed. Fever was present in 71.6% at 8 ± days. Hemoglobin (Hb) fell significantly on day 9 (- 0.3 g/dl, p < 0.001) and 14 (- 0.2 g/dl, p < 0.05). In 8.7% the drop was ≥ 1.0 g/dl, and in 24.6% ≥ 0.6 g/dl, thus overestimating anemia in 22% of infants. Serum iron and % saturation of transferrin fell markedly on day 4 becoming normal on day 30. Ferritin rose significantly from day 4 to 14. No changes were seen in mean cell volume, TIBC, protoporphyrins, haptoglobin or reticulocytes. Normal subjects of those with C reactive protein ≥ 0.6 mg/dl on day 9, presented with greater alterations of iron measurements. We conclude that a mild viral infection can induce a fall in Hb for at least one week after the fever appears. Other iron measures are modified earlier and persist altered during 3 weeks.