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Bovine lactoserum proteins, such as α-lactalbumin and β-lactoglobulin, have a high nutritional value and together with bovine caseins are the most commonly used proteins in infant formulae. Important allergenic characteristics in newborn infants are assigned to these proteins, especially β-lactoglobulin. According to Jakobsson *et al* (*J Pediatr Gastroenterol Nutr* (1983) 2, 613-616), the intolerance to these proteins may be partially due to deficient proteolytic equipment in the baby's digestive tract. Elastase II, on account of its important action on globular proteins, is one of the hydrolases implicated in this phenomenon, although no data in the literature report the presence of this form in the calf pancreas, which is one of the species best suited to hydrolyse cow's milk proteins.

The purpose of this study was to search for the presence of both elastases I and II in the calf pancreas and other tissues (antral gastric mucosa, fundic gastric mucosa, duodenum, liver, lung and kidney). The construction of a bovine pancreatic cDNA library allowed specific elastases I and II probes to be isolated. The former was selected by screening the bovine cDNA library with a rat elastase I probe, whereas the latter was hybridized with a probe synthesized by PCR using specific primers from 2 regions common to the human, rat and pig. The use of the elastase I-specific probe revealed an intense band with the pancreatic mRNAs in Northern-Blot analysis. There was weaker band with the mRNAs from the fundic gastric mucosa and no expression in the other tissues. In mice, Swift *et al* (1984, *Cell* 38, 639-646) found mRNA levels which were 10^3–10^5 higher in the pancreas than in the intestine, the liver, the spleen and the kidneys. Conversely, Han *et al* (1986, *Proc Natl Acad Sci USA* 83, 110-114) identified elastase I transcripts only in the rat pancreas. In the calf, the elastase II mRNA was only found in the calf pancreas, as is the case in humans (Kawashima *et al* (1987) *DNA* 6, 163-172). Han *et al* (1986; *Proc Natl Acad Sci USA* 83, 110-114) described their presence in various non-pancreatic tissues but with levels 10^3 lower than in the pancreas.

It would be of interest to measure the elastase I and II mRNA levels at different ages in different species in order to find out if any relationship exists between them and the appearance of allergenic response to cow's milk.

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METABOLISM

Resting energy expenditure in preadolescents with Duchenne muscular dystrophy. F Gottrand [1], R Hankard [1], M Robert [1], M Romon [2], D Turck [1], A Carpentier [3], JP Farriaux [1] *([1] Service de pédiatrie; [2] Service de nutrition, CHRU de Lille; [3] CFR Marc-Sautelet, Villeneuve-d'Ascq, France)*

Obesity often occurs in preadolescents suffering from Duchenne muscular dystrophy (DMD), and impairs their quality of life. The mechanisms that lead to this obesity remain unknown and could involve low resting energy expenditure (REE), abnormal nutrient disposal, or overfeeding. A better understanding of these mechanisms will help us to prevent and treat obesity in DMD patients. Twenty-two boys, 9–13 years old (9 controls, 13 DMD patients) were studied. All of the subjects and their parents gave informed written consent. The protocol was approved by the Lille University Hospital Ethics Committee (CP 92/26). Their REE was measured by indirect calorimetry over a 3 h period (Sensor Medics, Yorba Linda, CA). Their fat-free mass (FFM) was estimated

Table I. Data for 22 boys (9 controls; 13 DMD patients) (Gottrand *et al*).

Mean ± SD	*Controls*	*DMD*	*p*
REE (kcal/h)	54.7 (3.2)	49 (6.2)	0.02
REE/FFM (kcal/kg/h)	2.1 (0.2)	2.3 (0.3)	NS
RQ	0.83 (0.04)	0.88 (0.03)	0.004
FFM (kg)	26.1 (4.2)	22 (3.8)	0.04
MM (kg)	12 (4)	3 (1)	0.0001
3-MH (μmol/g)	220 (41)	583 (169)	0.001
DEI (kcal/d)	2 038 (374)	1 624 (401)	0.02
Carbohydrates (g/d)	250 (51)	195 (47)	0.04
Proteins (g/d)	67 (16)	56 (16)	NS
Lipids (g/d)	85 (18)	69 (20)	NS

from bioelectrical impedance analysis (BIA 101, RJL systems, Detroit, MI) using Schaeffer's formula (*Pediatr Res* (1994) 35, 617-24). Their muscle mass (MM) was estimated from 3 d creatinin urea. The 3-methyl histidine (3-MH) level was measured to estimate muscle breakdown. Diet records for one week were analysed for daily energy intake (DEI) and diet composition (table I).

Obesity in DMD is associated neither with high caloric intake nor with a different diet composition when compared with controls. The low REE (probably explained by the decrease of FFM) and the lack of lipid oxidation (suggested by the elevated RQ observed in patients with DMD) could be risk factors leading to the development of obesity in DMD patients.

Lecithin: cholesterol acyltransferase activity and chemical composition of HDL_2 and HDL_3 in patients with chronic renal failure treated by haemodialysis.
K Mekki [1], M Meghelli-Bouchenak [1], M Remaoun [2], J Prost [3], A Boualga [1], J Belleville [3] *([1] ISN, université d'Oran; [2] CHU-Hémodialyse, Sidi Bel Abbès, Algeria; [3] Nutrition cellulaire et métabolique, université de Bourgogne, Dijon, France)*

The aim of the present study was to correlate lipid and apo A-I amounts in HDL_2 and HDL_3 with plasma lecithin/cholesterol acyltransferase (LCAT, EC 2.3.1.43) activity in CRF patients treated by haemodialysis.

Fifty-eight patients (34 women, 24 men) with a mean age of 42 ± 13 years were investigated. This population was divided into 3 groups according to the duration of their haemodialysis: G1 < 1 year; G2 1–5 years; G3 5–13 years. These patients presented hypertriglyceridemia (1.45 ± 0.68 g/l) but had a normal plasma total cholesterol level (1.45 ± 0.55 g/l). A control group was composed of 22 adults (13 men, 9 women; mean age 40 ± 7 years). The total cholesterol (TC) and unesterified cholesterol (UC) of HDL_2 and HDL_3 were evaluated by gas-liquid chromatography (Gambert *et al* (1979) *J Chromatogr* 162, 1-6; (1982) *Biochim Biophys Acta* 713, 1-9), apo A-1 was evaluated by electroimmuno-diffusion on agarose gel and the plasma LCAT activity was assayed (Glomset *et al* (1964) *Biochim Biophys Acta* 89, 266-271).

In HDL_3, the UC and triacylglycerol (TG) proportions were higher, whereas the proportions of phospholipids (PL) were lower. Those of the cholesteryl esters (CE) were similar in the 3 groups compared with the