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## Effect of the diet on lipid profile of adipose tissue in (fa/fa) obese Zucker rats

R Cantoral, Mt Macarulla, Mi Torres, Ma de Diego, Mp Portillo

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sequential ultracentrifugation. ApoHDLs were identified after migration in area-gel at alkaline pH and then transferred on PVDF membranes before sequencing.

Amino acid (AA) composition of goose apoA-I was very similar to that of the chicken. The N-terminal amino acid sequence homology to other avian apoA-I was 91% in the duck and 82% in the chicken. ApoCs-like were described for the first time in avian species and were named apoCa and apoCb. The partial N-terminal sequence of apoCa exhibited a 9 AA motif identical to the one found in mammalian apoC-III. Thus apoCa might be the avian equivalent of apoC-III, which is the main inhibitor of lipoprotein lipase (LPL). Goose apoCb exhibited two isoforms due to differences in the electric charge, Cb<sub>1</sub> and Cb<sub>2</sub>. Cb<sub>1</sub> and Cb<sub>2</sub> had the same N-terminal AA sequence and presented no sequence similarity with any other known protein, and especially with apoC-II, which is the main LPL activator in mammals. Cb<sub>1</sub>, Cb<sub>2</sub>, or both isoforms were detected in 20%, 28% and 52% of the geese, respectively. Their transmission mode was consistent with two segregating alleles from a single concomitantly expressed gene.

The metabolic role of apoCs-like and of their isoforms remains to be established in the goose, especially in relation to susceptibility to liver steatosis.

**Effect of the diet on lipid profile of adipose tissue in (fa/fa) obese Zucker rats.** R Cantoral, MT Macarulla, MI Torres, MA De Diego, MP Portillo (*Department of Nutrition, Faculty of Pharmacy, University of País Vasco, c/ Marqués de Urquijo s/n, 01006 Vitoria, Spain*).

Genetic obesity observed in fa/fa Zucker rats induces some lipid metabolism modifications. Thus, changes in the concentra-

tion of many fatty acids have been observed in adipose tissue.

The purpose of this work was to investigate if these alterations could be corrected by using different dietary treatments. In this study two factors were considered: the reduction of the energy intake and that of the dietary fat content.

Twenty-eight male Zucker rats were divided into four groups: seven lean rats fed ad libitum (group A), seven obese rats fed ad libitum (group B), seven obese rats fed a 25% energy-restricted diet, which provided 10% of total energy from fat (group C) and seven obese rats fed a 25% energy-restricted diet, which provided 50% of energy from fat (group D). All diets were prepared by using olive oil as fat source.

After 4 weeks, animals were sacrificed by decapitation and subcutaneous adipose tissue was removed. Fatty acid concentrations were measured by gas chromatography. ANOVA test was used for statistical analysis.

Obese rats of group B showed an increase in C 14:0, C 16:0 and C 16:1 and a decrease in C 12:0, C 18:0, C 18:1, C 18:2 and C 18:3. Energy restriction did not allow to correct this fatty acid profile (no statistical difference was found between groups B and C).

In contrast, despite identical energy intake, when the diet provided a high amount of fat, some fatty acid disturbances were completely corrected and others were clearly improved.

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**Effects of fatty acids on S 14 expression in murine preadipocyte cell lines.** JP Grillasca<sup>1</sup>, J Antras-Ferry<sup>2</sup>, H Khiri<sup>2</sup>, C Forest<sup>2</sup>, J Torresani, R Planells. (<sup>1</sup> *U 130 and U 38 Inserm, Faculté de médecine, 27, bd J-Moulin, 13000 Marseille*; <sup>2</sup> *Ceremod, 9, rue J-Hetzel, 92190 Meudon, France*).