



# Endocrinología y Nutrición



## 195 - DHA-rich fish oil supplementation improves body composition without influence of PPAR-gamma Pro12Ala polymorphism in patients with type 2 diabetes

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### Resumen

**Introduction:** The aims of this research were to investigate (1) the impact of DHA-rich fish oil supplementation on body composition, plasma adiponectin level, and PPAR $\gamma$  gene expression; (2) whether the effect of DHA-rich fish oil supplementation on the aforementioned variables is modulated by PPAR $\gamma$  Pro12Ala polymorphism.

**Methods:** We genotyped PPAR $\gamma$ Pro12Ala polymorphism in subjects with T2DM. Ala carriers and non-Ala carriers were randomly assigned to DHA-rich fish oil or placebo intake for 8 weeks.

**Results:** Glycemic control was not affected by the intervention. The supplementation with DHA-rich fish oil decreased WC ( $p \leq 0.001$ ), body fat mass ( $p = 0.01$ ), body fat percent ( $p = 0.04$ ), and visceral fat rating ( $p = 0.02$ ) as well as trunk fat mass ( $p = 0.04$ ). Weight, BMI, fat free mass, Adiponectin level and PPAR $\gamma$  gene expression changes showed no significant difference. No gene-diet interaction was found on body composition, adiponectin level and PPAR $\gamma$  gene expression.

**Conclusions:** DHA-rich fish oil supplementation favorably modulated body composition in patients with type 2 diabetes, and could be useful to reduce visceral obesity. However, the PPAR $\gamma$  Pro12Ala polymorphism did not influence the changes in the desired variables.