

Dietary fiber intake may influence the associations between FTO genetic variants and obesity-related parameters

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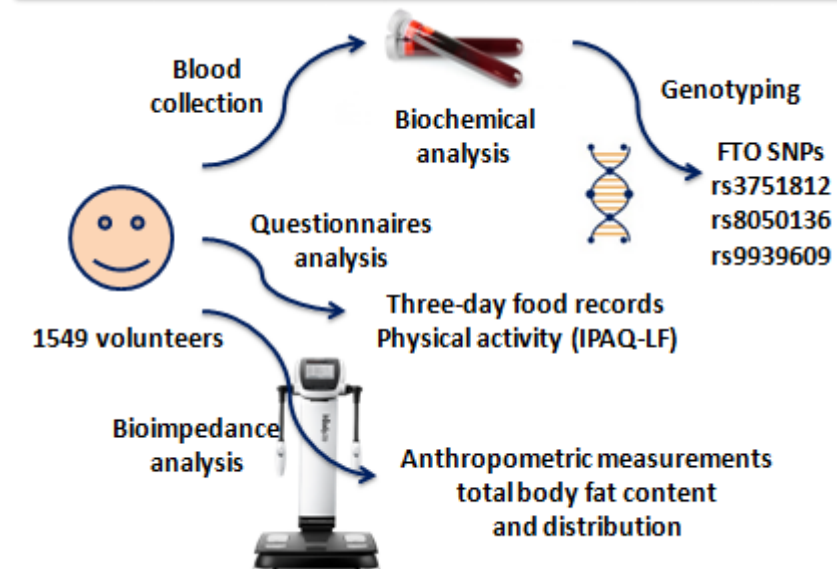
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Objectives

- Environmental factors such as dietary fiber may influence the associations between genetic risk and obesity development.
- The aim of the study was to evaluate whether dietary fiber intake could modify the association between some common genetic variants of the FTO gene and obesity.

Methods



Results

- We observed that carriers of the GG genotype of rs3751812 presented lower hip circumference, higher total cholesterol and LDL levels, when subjects were stratified to the high dietary fiber intake quantiles. Similar results were observed for rs8050136 CC genotype carriers.
- We noted that carriers of TT and AA of both of the mentioned above loci, respectively, presented lower visceral fat content, when subjects were stratified to the high dietary fiber intake quantiles.
- We observed lower CIR of the GG and CC of both of the mentioned above loci, in subjects stratified to the low dietary fiber intake quantiles.

Conclusions

- Findings from our study provide new insights into the role of the interactions between daily fiber intake and selected FTO SNPs

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FTO SNPs		rs3751812		rs8050136	
Genotype carriers		GG n=211	TT n=181	CC n=209	AA n=182
High dietary fiber intake quantiles (≥18g)	Hip circumference	↓ GG vs GT, p=0.029	-	↓ CC vs AC, p=0.029	-
	Visceral fat content	-	↓ TT vs GT, P=0.017	-	↓ AA vs AC, p=0.015
	Total cholesterol	↑ GG vs GT, p=0.017	-	↑ CC vs AC, p=0.016	-
	LDL levels	↑ GG vs GT, p=0.012	-	↑ CC vs AC, p=0.011	-
Low dietary fiber intake quantiles (≤18g)	Corrected insulin response (CIR) at 120 minute of the OGTT test	↓ GG vs GT, p=0.019	-	↓ CC vs AC, p=0.019	-



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