PREVALENCE AND RELATIONSHIP BETWEEN HYPOVITAMINOSIS D AND INSULIN RESISTANCE IN OBESE PATIENT CANDIDATES FOR BARIATRIC SURGERY

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Objective

To determine the prevalence of suboptimal vitamin D status in obese patients who are at risk of developing type 2 and its correlation with insulin resistance

Material and methods

Prospective observational study in obese patients (BMI>30Kg/m2)
From October to December 2017
Demographic, clinical and biochemical data were evaluated
Vitamin D insufficiency: 25OHD3 10-20 ng/ml
Vitamin D deficiency: 25OHD3 <10 ng/ml
Insulin resistance was estimated by fasting glucose and the HOMA-IR index>2.5

Results

We evaluated 85 patients (27 men and 58 women)

Data	Result
Age	43.8 +/- 14.5 years
BMI	43.6 +/- 8.2 Kg/m²
Systolic blood pressure (SBP)	133.4 +/- 18.7 mmHg
Diastolic blood pressure (DBP)	84.6 +/- 11.1 mmHg
Fasting glucose	100.8 +/- 30.6 mg/dl
Glycated hemoglobin (HbA1C)	6,01 +/- 1.05 %
Total cholesterol (TC)	18.4 +/- 33.8 mg/dl
HDL cholesterol (HDL-c)	47.8 +/- 10.4 mg/dl
LDL cholesterol (LDL-c)	111.5 +/- 28.2 mg/dl
Triglycerides (TG)	152.8 +/- 84.8 mg/dl
25OHD3	17.5 +/- 6.01 ng/ml

- 5.88% of participants had 25(OH)D concentrations <10ng/ml
- Serum levels of 25(OH)D showed:
  - a significant positive association with HOMA2-%S (p=0.01)
  - an inverse association with HOMA2-%B (p=0.07) and insulin levels (p=0.01)

Independent of other factors usually associated with insulin resistance such as age and BMI

Conclusions

Our results highlight the relationship between circulating 25(OH)D and glucose homeostasis in obese patients candidate to bariatric surgery.
We suggest that the optimization of serum levels of 25(OH) D in obese patients candidates to bariatric surgery could represent a preventive strategy against the development of metabolic syndrome, type 2 diabetes and cardiovascular risk.