25-hydroxy vitamin D levels in patients with newly diagnosed of cancer

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INTRODUCTION

Recent studies have pointed out a possible role of vitamin D in carcinogenesis[1]. Vitamin D deficiency may be related to a major cancer incidence and mortality[2].

Objetives:

- To determine 25-hydroxy vitamin D levels in a cohort of patients with newly diagnosed of cancer.
- To analyze factors that could modify these levels such as age, sex, type of cancer and stage, and body composition.

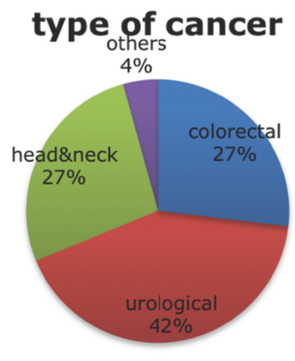
METHODS

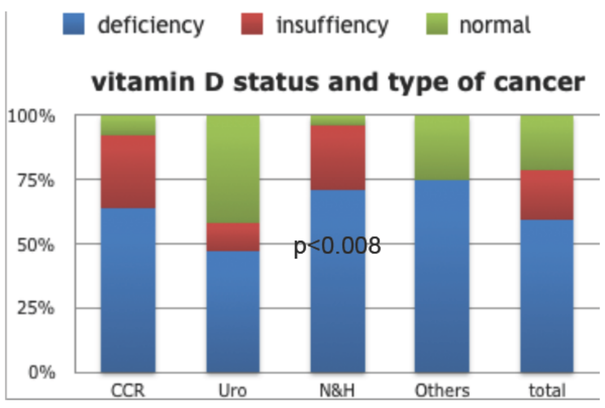
A cross-sectional study of consecutive out-patients with newly diagnosed of cancer (solid malignant tumors).

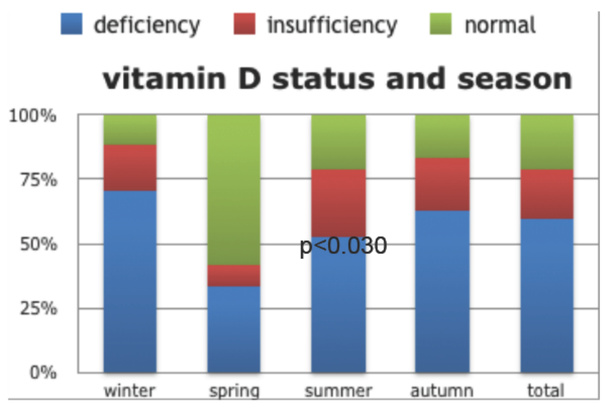
Patients were referred to the Nutrition Unit for preoperative nutritional evaluation (fast-track protocol) during the year 2014. We assessed body composition by bioelectrical impedance analysis and determined serum 25-hydroxy vitamin D, 25(OH)D, levels.

Sociodemographic characteristics of the study population

Age (years)	67.3 ± 11.1
Sex	
female	32.8%
male	67.2%
Race	
Caucasian	100%
BMI (Kg/m^2)	26.4± 4.5
Smoking	
yes	53.8%
no	46.2%
first degree relative with cancer	
yes	9.4%
no	90.6%







RESULTS

A total of 93 patients were evaluated: 39 had urological cancer, 25 colorectal cancer (CRC), 25 head & neck cancer and 4 other type.

The mean concentration of 25(OH)D was 53.8 +/- 32.3 nmol/L (95% CI= 45.0-63.7). 59.6% showed vitamin D deficiency (<50 nmol/L) and 19.1% insufficiency (50-75 nmol/L).

There were differences in vitaminD deficiency depending on the type of cancer: head&neck 70.8%, CCR 64.0% and urological 47.0% (p<0.008). 71% of patients with head&neck cancer present with advanced stage at diagnosis (stage IV).

No statistically significant associations were found between 25(OH)D levels and sex, age, smoking, BMI and fat mass. The season of blood collection significantly modified 25(OH)D concentration (p<0.030).

CONCLUSIONS

- We have found a high prevalence of vitamin D deficiency among patients with a new diagnosis of cancer, specially for those with head and neck cancer.
- The use of local laboratory reference values adjusted by season could avoid possible bias.
- The interesting link between vitamin D and cancer deserves further research.

References

1. Deeb KT, Johnson DL. Vitamin D signalling pathways in cancer: potential for anticancer therapeutics. Nature Reviews Cancer. 2007; 7(9):684-700

2. Maalmi H, Ordonez-Mena JM, Schottker B, Brenner H. Serum 25-hydroxyvitamin D levels and survival in colorectal and breast cancer patients: systematic review and meta-analysis of prospective cohort studies. Eur J Cancer. 2014; 50(8): 1510-21.

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