The Prevalence of Vitamin D Deficiency in Thai Cancer Patients, its Dynamics and Association with Cancer Survival

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Background: Vitamin D deficiency is associated with various kinds of cancer. Moreover, vitamin D level possibly has an inverse relationship with cancer mortality. The data on vitamin D status among Thai cancer patients and its association with cancer survival are scarce.

Objectives: The primary outcome was to determine the prevalence of vitamin D deficiency among unselected Thai cancer patients. The secondary outcomes were to explore the effect of cancer treatment upon vitamin D status, the independent predictive factor(s) of vitamin D deficiency among cancer patients and its potential independent factor of cancer survival.

Materials & Methods: There were 106 consecutive cancer patients participated in this prospective descriptive study conducted at Division of Medical Oncology. Vitamin D (25(OH) D) levels were collected before and after cancer treatment. Demographic data, vitamin D status, and treatment outcomes were collected and analyzed.

Results: There were 106 consecutive cancer patients participated in this study. Determination of vitamin D status after cancer treatment were obtained in 76 patients. The investigators found that almost all of the cancer patients had vitamin D deficiency (102 of 106, 96.2%). Determination of vitamin D status after cancer treatment were obtained in 76 patients. The investigators did not demonstrate the significant change of vitamin D level (mean change = -1.46 (95% C.I., -3.33-0.41), p = 0.124) when the blood samples were collected before and after cancer treatment. Therefore, cancer treatment was unlikely to affect the vitamin D status. There was a trend towards inverse relationship between the BMI and vitamin D level. At the median follow-up time of 254.5 days (IQR 220-297), the investigators revealed that low BSA (BSA < 1.5 m2), PS 2 at presentation and very low vitamin D level (< 10 ng/ml) were the independent predictive factors of survival, according to the multi-variate analysis.

Conclusions: Nearly all Thai cancer patients have vitamin D deficiency. Cancer treatment does not affect the vitamin D status. Low serum vitamin D level does not affect survival outcome.

Keywords: Vitamin D deficiency, prevalence, cancer, survival