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869 - OXIDATIVE BALANCE SCORE AND HYPOTHYROIDISM INCIDENCE IN THE SUN COHORT STUDY

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Resumen

Background/Objectives: Hypothyroidism is a prevalent condition worldwide, with an estimated prevalence ranging from 0.2% to 5.3% in Europe. Emerging evidence links hypothyroidism to oxidative stress, as affected individuals often exhibit reduced antioxidant capacity. Some studies suggest that oxidative stress may contribute to thyroid disease complications, underscoring the need for further investigation. This study aimed to analyze the association between an oxidative balance score and the risk of developing hypothyroidism in the SUN cohort using a prospective approach.

Methods: Oxidative balance score (OBS) was estimated at baseline using 12 dietary and lifestyle factors associated with pro- and antioxidant properties, including vitamins C and E, β-carotene, selenium, zinc, heme iron, polyphenols, antioxidant capacity of food, body mass index, alcohol intake, smoking, and physical activity. The OBS was categorized into quintiles, with higher scores reflecting a more balanced antioxidant profile. Cox models were used to examine the prospective association between OBS and the risk of hypothyroidism.

Results: Our study included 18,971 participants (mean age 38.2 SD (12.4) years; 40.2% women). Participants were monitored through biennial questionnaires during up to 22 years (median follow-up: 13.8 years). The OBS ranged from 5 to 47. During

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follow-up 1,130 individuals were diagnosed with hypothyroidism. After adjusting for potential confounders, the hazard ratio for the highest quintile (greater antioxidant predominance) compared to the lowest quintile was 0.74 (95%CI: 0.55-0.98, p-trend = 0.030).

Conclusions/Recommendations: The results suggest a strong inverse relationship between the OBS and hypothyroidism. Therefore, promoting antioxidant-rich foods and healthy habits could be a beneficial strategy for hypothyroidism prevention.

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