Korelasi antara kadar beta karoten dan malondialdehida serum pada penderita penyakit paru obstruktif kronik = Correlation between serum beta caroten and malondialdehyde level in chronic obtructive pulmonary disease subjects

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Abstrak

Penyakit paru obstruksif kronik PPOK merupakan penyakit paru dengan karakteristik hambatan aliran udara yang progresif, karena peningkatan reaksi peradangan kronik berlebihan pada saluran napas dan parenkim paru. Stres oksidatif terutama akibat pajanan rokok dalam jangka waktu lama berperan sentral pada patogenesis PPOK. Beta karoten suatu karotenoid punya peran pada stres oksidatif dengan kemampuan mereduksi paling tinggi dan lebih efisien mengikat radikal yang berasal dari dalam dinding liposom pada kompartemen lipofilik dinding sel. Di Indonesia bahan makanan sumber -karoten mudah didapat. Penelitian ini bertujuan mencari hubungan antara kadar -karoten dan MDA serum pada penderita PPOK. Penelitian pontong lintang ini mengikutsertakan 47 penderita PPOK melalui metode consecutive sampling. Data sosio-demografi, riwayat merokok, asupan -karoten secara FFQ semikuantitatif diperoleh dengan wawancara. Data skor CAT, kekerapan kekambuhan dan uji fungsi paru terbaru didapatkan dari rekam medik. Dilakukan pengukuran IMT, kadar MDA serum dengan spektrofotometri dan -karoten serum dengan HPLC. Subjek paling banyak berusia 60-74 tahun, bekas perokok, dengan IMT normal. Asupan dan kadar ?-karoten serum rendah pada sebagian besar 63,8 subjek. Kadar MDA serum cenderung lebih tinggi daripada orang sehat, menandakan adanya penngkatan stres oksidatif pada penderita PPOK. Tidak didapatkan adanya korelasi antara kadar -karoten dan MDA serum.

.....Chronic obstructive pulmonary disease COPD is a lung disease, characterized by progressive air flow resistance, which increase chronic inflammatory reactions of the airways and lung parenchyma. A history of exposure to risk factors, especially smoking, for long term contribute to the central role of oxidative stress in the pathogenesis of COPD. Beta carotene as one of the antioxidants may play a role in oxidative stress among COPD patients, carotene's food source is abandon in Indonesia. This cross sectional study aimed to investigate relationship between levels of serum carotene and MDA in COPD patients. Consecutive sampling was applied to recruit 47 COPD subjects, who mainly subjects elderly with history of heavy smoking. Socio demographic data, smoking history, intake of carotene by semiquantitative FFQ was obtained by interview. CAT score, frequency of exacerbations and lung function tests were obtained from medical records. Nutritional status by BMI, concentration of carotene by HPLC and MDA serum by spectrophotometry were assessed. More than 50 subjects'carotene intake and serum level were lower than reference. Serum MDA level was higher than healthy person's, indicating an increase oxidative stress among COPD patients. There was no correlation between serum carotene and MDA levels.