Kadar vitamin C plasma dan humor akuos menurut gradasi katarak senilis = Vitamin C plasma and aqueous humor level in relation to senile cataract grades

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Abstrak

Tujuan :untuk mendapatkan data kadar vitamin C plasma dan humor akuos penderita katarak senilis dan faktor-faktor yang berhubungan.

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Metodologi : suatu studi korelasi, dengan subjek 123 penderita katarak senilis yang menjalani operasi katarak, dipilih secara consecutive sampling. Data meliputi data umum, gradasi katarak, pola dan asuhan makan ditentukan dengan metode tanya ulang 2x24jam dan FFQ serta pemeriksaan kadar vitamin C plasma dan humor akuos menggunakan spektrofotometri.

Hasil : Kebiasaan mengkonsumsi suplemen vitamin C terdapat pada 26% subjek. Pola makan dan asupan vitamin C dengan kriteria kurang pada 62,6% dan 52,9% subjek. Median kadar vitamin C plasma 0,545 (0,203 - 1,986) mgldL dan humor akuos 16,753 (3,528 - 37,505) mg/dL, Penderita katarak gradasi III mempunyai kadar vitamin C plasma yang tertinggi, sedangkan di humor akuosnya terendah. Terdapat korelasi positif antara vitamin C plasma dengan asupan zat gizi (energi, protein dan serat) dan vitamin C humor akuos. Terdapat hubungan antara pola makan, asupan zat gizi, kebiasaan mengkonsumsi suplemen vitamin C dengan gradasi katarak. Kadar vitamin C plasma > 0,7 mg/dL (batas risiko katarak) yang diperoleh dari asupan vitamin C 140 mg/hari mempunyai hubungan dengan gradasi katarak.

Kesimpulan : Tidak(ada subjek penelitian yang menderita defisiensi vitamin C. Kadar vitamin C humor akuos pada katarak gradasi III lebih rendah dibanding gradasi lanjut kemungkinan dikarenakan sejumlah serat-serat lensa masih aktif menggunakannya. Pola makan yang baik, asupan vitamin C > 140 mg/hari dan kebiasaan mengkonsumsi suplemen vitamin C lebih banyak ditemukan pada penderita katarak gradasi awal. Dibutuhkan asuhan vitamin C lebih tinggi dari AKG untuk menunda progresivitas katarak.
<hr><i>Purpose: to identify the plasma and aqueous humor level of vitamin C in senile cataract patient and related factors.

Setting: Department of Ophthalmology, Faculty of Medicine, University of Indonesia, Cipto Mangunkusumo Hospital, Jakarta.

Material and Method: A correlation study of 123 consecutive samples of senile cataract patients who underwent cataract surgery. Data were collected include demographic profiles, cataract grades, assessment of dietary profile and intake by food recall 2x24 hours question and FFQ, vitamin C level in plasma and aqueous humor, analyzed by spectrophotometer method.

Result: Subject who regularly consumed vitamin C supplement was up to 26%. Poor dietary profile and vitamin C intake were found on 62.6% and 52.9% of the subject respectively. The median of vitamin C level in plasma was 0.545 (0.203-1.986) mg/dL and in aqueous humor was 16.753 (3.528-37.505) mg/dL. The highest median plasma level along with the lowest median aqueous humor level of vitamin C was found on cataract grade 3. Plasma level of vitamin C had a positive correlation with a variety of nutrient intake (energy, protein and fiber) and vitamin C level in aqueous humor. The grade of lens opacities was associated with dietary profile, intake of nutrient, vitamin C supplement consumption. Plasma level of vitamin C higher than 0.7 mg/dL during vitamin C intake of 140 mg per day was related with the grade of lens opacities.

Conclusion: None of these senile cataract patients was vitamin C deficient. The aqueous humor level of vitamin C in cataract grade 3 was lower than in other grades. It is assumed that numerous healthy lens fibers are still active utilizing the vitamin C in aqueous humor. Fine dietary profile, high vitamin C intake (>140 mg/dL) and regular consumption of vitamin C supplement were associated with grades of cataract. It is suggested to increase vitamin C intake higher than RDA in order to prevent the progression of cataract.</i>