Intisari

HUBUNGAN KADAR FOSFAT SERUM DAN DERAJAT KALSIFIKASI AORTA ABDOMINAL PADA PASIEN PENYAKIT GINJAL TAHAP AKHIR YANG MENJALANI HEMODIALISIS RUTIN

Latar belakang: Pada pasien penyakit ginjal tahap akhir (PGTA) terdapat risiko peningkatan mortalitas kardiovaskuler dan merupakan penyebab kematian yang besar, dan hal ini dikaitkan dengan kejadian kalsifikasi vaskuler. Fosfat berperan penting pada terjadinya kalsifikasi vaskuler pasien PGTA. Penelitian observasional menunjukkan peningkatan kadar fosfat serum berhubungan dengan peningkatan risiko kematian. Pemeriksaan foto polos abdomen posisi lateral dapat digunakan untuk mengetahui kalsifikasi aorta abdominal yang dapat memberi petunjuk terjadinya kalsifikasi vaskuler.

Tujuan: Mengetahui hubungan antara kadar fosfat serum dan derajat kalsifikasi aorta abdominal pada pasien PGTA yang menjalani hemodialisis rutin di RSUP Dr. Sardjito.

Metode: Penelitian observasional, desain *retrospective cohort*, menggunakan data fosfat pada titik satu tahun pengamatan ke belakang kemudian dilakukan foto polos abdomen posisi lateral dan dinilai menggunakan skor Kauppila. Hubungan kadar fosfat dengan derajat kalsifikasi aorta abdominal dianalisis dengan uji *paired sample proportion test*.

Hasil: Jumlah subyek 42, laki-laki 22 (52,40%), perempuan 20 (47,60%). Rerata usia 47,95 ± 15,58 tahun, indeks massa tubuh (IMT) terbanyak kategori normal (47,60%), 61,90% subyek menjalani hemodialisis lebih dari 36 bulan. Komorbid terbanyak adalah hipertensi (81,00%). Rerata kadar fosfat 3,81 ± 1,65 mg/dL, kalsium 2,37 ± 0,34 mmol/L, albumin 4,01 ± 0,36 g/dL. Kalsifikasi aorta abdominal didapatkan pada sebagian besar sampel (71,46%), dengan derajat terbanyak adalah derajat sedang (40,50%). Terdapat hubungan yang bermakna secara statistik pada kadar fosfat dengan derajat kalsifikasi aorta abdominal (p=0,035).

Simpulan: Terdapat hubungan yang bermakna antara kadar fosfat dengan derajat kalsifikasi aorta abdominal.

Kata kunci: Kadar fosfat serum, kalsifikasi aorta abdominal, hemodialisis rutin

Abstract

RELATIONSHIP BETWEEN SERUM PHOSPHATE LEVELS AND DEGREE OF ABDOMINAL AORTIC CALCIFICATION IN END STAGE RENAL DISEASE PATIENTS UNDERGOING CHRONIC HEMODIALYSIS

Erna Fitrisia Christina[1], Raden Heru Prasanto[2], Iri Kuswadi[3]
[1]Resident of Internal Medicine-Nephrology, Faculty of Medicine Public Health and Nursing, Gadjah Mada University/Sardjito Hospital, Yogyakarta, Indonesia
[2,3] Nephrology Division Staff, Internal Medicine Section, Faculty of Medicine Public Health and Nursing, Gadjah Mada University/Sardjito Hospital, Yogyakarta, Indonesia

Background: Vascular calcification is highly prevalent in end stage renal disease (ESRD) patients. It is a strong predictor of cardiovascular mortality in ESRD patients. Phosphate is now recognized as a major risk factor for cardiovascular events in ESRD patients. Phosphat has emerged as a key regulator of vascular calcification in patients with ESRD. Calcification of the abdominal aorta can be detected by lateral lumbal radiography, and it was graded using Kauppila scores. This study aimed to evaluate whether there was a relationship between serum phosphate levels and severity of abdominal aortic calcification in ESRD patients undergoing chronic hemodialysis.
Method: Patients ESRD who were undergoing chronic hemodialysis in Dr. Sardjito hospital Yogyakarta were included in the study. This is an observational study, retrospective cohort design, using phosphate data at the point back of one year of observation, then a plain lateral abdominal radiograph was performed and assessed using the Kauppila score. The relationship between phosphate levels and the degree of abdominal aortic calcification was analyzed using the paired sample proportion test.
Results: The number of subjects was 42, male 22 (52,40%), female 20 (47,60%). The mean age was 47,95 ± 15,58 years, the highest body mass index (BMI) was in the normal category (47,60%), 61.90% of subjects underwent hemodialysis for more than 36 months. The most comorbid was hypertension (81.00%). The mean level of phosphate is 3,81 ± 1,65 mg/dL, calcium is 2,37 ± 0,34 mmol/L, albumin is 4,01 ± 0,36 g/dL. Abdominal aortic calcification was found in most of the samples (71,46%), with the highest degree being moderate (40,50%). There was a statistically significant relationship between phosphate levels and the degree of abdominal aortic calcification (p=0,035).
Conclusion: There was a statistically significant relationship between serum phosphate levels and the degree of abdominal aortic calcification.
Keywords: serum phosphate levels, aortic abdominal calcification, chronic hemodialysis