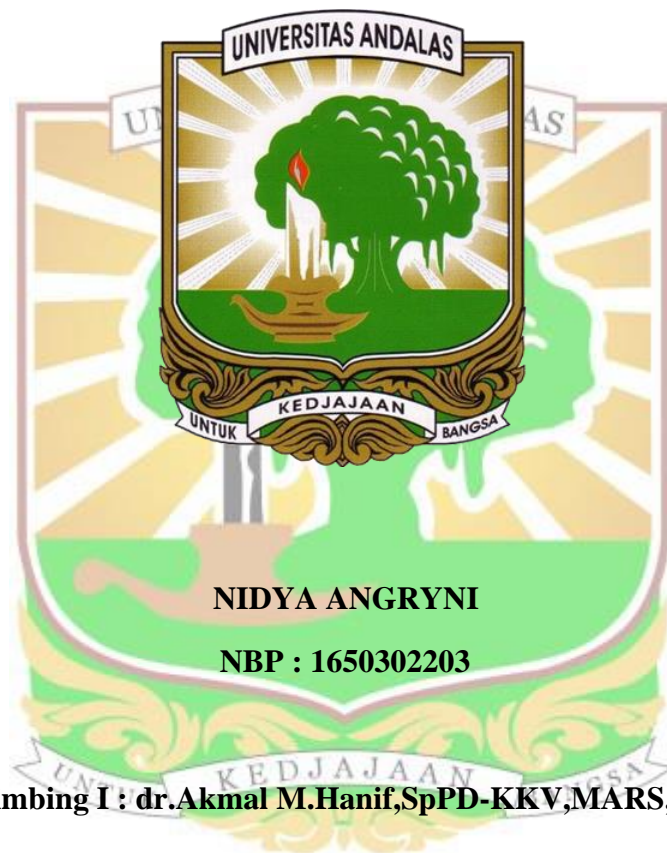


TESIS

**PENGARUH PEMBERIAN *PHOSPHATE BINDER* TERHADAP KADAR PRODUK
KALSIUM X FOSFAT SERUM DAN NILAI *ANKLE BRACHIAL INDEX* PADA
PASIEN PENYAKIT GINJAL KRONIK DENGAN PENYAKIT ARTERI PERIFER**



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**PROGRAM STUDI PENDIDIKAN DOKTER SPESIALIS I
BAGIAN ILMU PENYAKIT DALAM
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PENGARUH PEMBERIAN *PHOSPHATE BINDER* TERHADAP KADAR PRODUK KALSIMUM X FOSFAT SERUM DAN NILAI *ANKLE BRACHIAL INDEX* PADA PASIEN PENYAKIT GINJAL KRONIK DA PENYAKIT ARTERI PERIFER

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Abstrak

Pendahuluan : Penyakit arteri perifer (PAP) merupakan salah satu komplikasi kardiovaskular pada pasien penyakit ginjal kronik (PGK), ditandai dengan penurunan nilai *ankle brachial index* (ABI) < 0,9. Saat terjadi penurunan fungsi ginjal, maka akan terjadi perburukan progresif dari homeostasis mineral dengan adanya gangguan kadar fosfat dan kalsium di serum sehingga akan mempercepat proses aterosklerosis. Terapi untuk mengontrol gangguan homeostasis kalsium dan fosfat serum yaitu dengan pemberian *phosphate binder*.

Metode: Penelitian ini merupakan uji klinis pada 20 orang kelompok perlakuan dan 20 orang kelompok kontrol pasien PGK stadium 4 dengan PAP di Instalasi Rawap Inap dan Poliklinik Bagian Penyakit Dalam RSUP Dr.M.Djamil Padang. Subjek diikuti selama 90 hari, kemudian efek perlakuan diukur, dianalisis, dan dibandingkan antara *pre* dan *post* perlakuan antara kedua kelompok subyek penelitian. Sampel penelitian dipilih secara *purposive sampling*. Semua subjek yang memenuhi kriteria inklusi dan eksklusi dilakukan *matching* terhadap komorbid PGK dan dimasukkan dalam penelitian sampai jumlah sampel terpenuhi. Data yang terkumpul diolah menggunakan program *SPSS for window*.

Hasil: Terdapat perbedaan selisih kadar produk kalsium x fosfat serum dan nilai *ankle brachial index* yang bermakna ($p = 0,00$) antara kelompok perlakuan dan kontrol setelah 90 hari. Terjadi penurunan rerata selisih kadar produk kalsium x fosfat serum pada kelompok perlakuan yaitu -7,98, peningkatan rerata selisih kadar produk kalsium x fosfat serum kelompok kontrol yaitu 7,22, peningkatan rerata selisih nilai *ankle brachial index* kelompok perlakuan yaitu 0,005, dan terjadi penurunan rerata nilai selisih *ankle brachial index* kelompok kontrol yaitu -0,022.

Kesimpulan: *Phosphate binder protein* berpotensi untuk menurunkan kadar produk kalsium x fosfat serum dan meningkatkan nilai *ankle brachial index*.

Kata kunci: *Phosphate binder*, Kadar Produk Kalsium x Fosfat Serum, ABI, PAP, PGK

THE EFFECT OF THE MEDICATION OF PHOSPHATE BINDER ON PRODUCTS LEVELS OF CALCIUM X PHOSPHATE SERUM AND ANKLE BRACHIAL INDEX VALUES IN PATIENTS OF CHRONIC KIDNEY DISEASE AND PERIPHERAL ARTERY DISEASE

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Abstract

Introduction: Peripheral arterial disease (PAD) is one of the cardiovascular complications in patients with chronic kidney disease (CKD), characterized by a decrease in the value of the ankle brachial index (ABI) < 0.9 . When there is a decrease in kidney function, there will be a progressive worsening of mineral homeostasis with disturbances in serum phosphate and calcium levels so that it will accelerate the atherosclerosis process. Therapy to control disturbances in serum calcium and phosphate homeostasis is by administering a phosphate binder.

Methods: This study was a clinical trial on 20 treatment groups and 20 control groups of stage 4 CKD patients with PAP at the Inpatient Installation and Internal Medicine Polyclinic, Dr.M.Djamil Hospital, Padang. Subjects were followed for 90 days, then the effect of treatment was measured, analyzed, and compared between pre and post treatment between the two groups of research subjects. The research sample was selected by purposive sampling. All subjects who met the inclusion and exclusion criteria were matched against comorbid CKD and were included in the study until the sample size was met. The collected data is processed using the SPSS for window program.

Results: There was a significant difference in serum calcium x phosphate product levels and ankle brachial index values ($p = 0.00$) between the treatment and control groups after 90 days. There was a decrease in the average difference in serum calcium x phosphate product levels in the treatment group was -7.98 , an increase in the average difference in serum calcium x phosphate product levels in the control group was 7.22 , an increase in the average difference in the ankle brachial index value in the treatment group was 0.005 , and a decrease the average value of the difference between the ankle brachial index in the control group was -0.022 .

Conclusion: Phosphate binder protein has the potential to reduce serum calcium x phosphate product levels and increase the value of the ankle brachial index.

Key words: Phosphate binder, Calcium x Phosphate Serum Product Level, ABI, PAP, PGK