Pengaruh Kurkumin Terhadap Respons Inflamasi Dan Stres Oksidatif Pasca Intervensi Koroner Perkutan Pada Pasien Dewasa Penyakit Jantung Koroner Stabil = The Effect of Curcumin on Inflammatory Response and Oxidative Stress Following Percutaneous Coronary Intervention in Adult Patients with Stable Coronary Heart Disease

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Abstrak

Intervensi koroner perkutan (IKP) terbukti mengurangi morbiditas dan mortalitas penyakit jantung koroner (PJK). Cedera pembuluh darah akibat IKP dapat menyebabkan timbulnya inflamasi dan stress oksidatif. Studi ini menunjukkan bahwa kurkumin memiliki efek menekan inflamasi dan antioksidan pada penderita PJK stabil pasca-IKP. Penelitian ini bertujuan untuk mengetahui efektivitas suplementasi kurkumin per oral dalam menurunkan kadar inflamasi dan stres oksidatif pasca-IKP pasien PJK stabil.
Pasien dewasa PJK stabil dilakukan IKP, dirandomisasi secara acak tersamar ganda ke dalam kelompok kurkumin atau plasebo. Kurkumin (45 mg/hari) atau plasebo diberikan selama 7 hari sebelum IKP hingga 2 hari setelah IKP. Kadar marker inflamasi (hsCRP dan sCD40L) dan marker oksidatif (MDA dan GSH) dalam serum dinilai dalam 3 fase, 7 hari pra-IKP, 24 jam pasca-IKP, dan 48 jam pasca-IKP.
Selama periode April–Juni 2015, terdapat 50 pasien yang direkrut (25 kurkumin dan 25 plasebo) di RSUP Cipto Mangunkusumo dan RS Jantung Jakarta. Konsentrasi hsCRP dan sCD40L pada kelompok kurkumin dalam 3 fase cendrung menurun ($p < 0,05$) dibanding kelompok plasebo, tetapi konsentrasi hsCRP dan sCD40L pada tiap fase tidak berbedaan bermakna, sedang kadar MDA dan GSH tidak berbeda bermakna setiap fase, namun menunjukkan kecenderungan penurunan kadar MDA ($p = 0,6$) dan GSH ($p = 0,3$). Pemberian kurkumin mempunyai kecenderungan menurunkan respons inflamasi pasca-IKP dan cenderung menghambat pembentukan stress oksidatif yaitu MDA serum melalui mekanisme peningkatan penggunaan antioksidan internal yaitu GSH serum.
.....Background: Percutaneous coronary intervention (PCI) has been proven to improve morbidities and mortalities in stable coronary heart disease (CHD). However, ischemia-reperfusion injury resulted from PCI might induce inflammation and oxidative stress. Several studies suggested that curcumin exerts anti-inflammatory and antioxidant properties that may be beneficial in post-PCI stable CHD patients.
Objectives: To determine the efficacy of orally administered curcumin in reducing inflammatory response and oxidative stress in post-PCI of stable CHD patients.
Methods: A double-blind randomized controlled trial consisting of 50 adult patients of both sexes with stable CHD who underwent PCI were treated with curcumin or placebo. Either curcumin (45 mg/day) or placebo was given 7 days prior to PCI until 2 days after PCI. Inflammatory markers (hsCRP and sCD40L) and oxidative stress assessment (MDA and GSH) were measured in 3 phases (7 days pre-PCI, 24 hours post-PCI, and 48 hours post-PCI).
Results: During April–June 2015, 50 patients were recruited (25 curcumin and 25 placebo) from Cipto Mangunkusumo General Hospital and Jakarta Heart Center. The serum concentrations of hsCRP and sCD40L in curcumin group ($p < 0.05$) in all observation phases were significantly lower compared with placebo group; however, there were no significant differences between groups. No significant difference

was observed among phases in MDA and GSH, but there was a trend of decreasing MDA and GSH levels ($p = 0.6$ and $p = 0.3$, respectively) in curcumin group.
Conclusion: Curcumin tends to reduce inflammatory response following PCI by decreasing oxidative stress (MDA) through the increase of internal antioxidant utilization (GSH).