Efek Ekstrak Air Daun Kelor (Moringa oleifera) Terhadap Kadar Nitrit (NO2-) pada Infark Miokard Tikus Sprague Dawley = The Effect of Moringa oleifera Aqueous Extract Toward Nitrite Concentration in Sprague Dawley Rats with Isoproterenol-induced Myocardial Infarction

Stephanie Amabella Prayogo, author

Abstrak

Penyakit kardiovaskular masih menempati peringkat pertama penyakit penyebab kematian terbanyak di dunia, yaitu 31% dari seluruh kematian. Berdasarkan data dari World Health Organization (WHO), 85% dari 17,9 juta orang yang meninggal akibat penyakit kardiovaskular mengalami serangan jantung dan stroke. Moringa oleifera yang banyak ditemukan dan telah digunakan di Indonesia, memiliki bahan-bahan yang berperan sebagai antiinflamasi, seperti quercetin, kaempferol, dan flavonoid. Belum ada penelitian yang mengkaji efek ekstrak air daun kelor (Moringa oleifera) terhadap infark miokard tikus. Penelitian ini dilakukan menggunakan bahan biologi tersimpan jaringan jantung dari tikus yang telah menerima 3 perlakuan berbeda (kontrol negatif: tanpa perlakuan; ISO: pemberian isoproterenol 85 mg/kgBB; serta ISO+MO: pemberian isoproterenol 85 mg/kgBB dan ekstrak air daun kelor 200 mg/kgBB). Kadar nitrit diukur menggunakan Nitrite Assay Kit (Griess Reagent). Hasil uji kadar nitrit signifikan antara ketiga kelompok dengan nilai p=0,009. Uji Post-Hoc menunjukkan nilai signifikan antara kelompok kontrol negatif dengan ISO (p=0,290) dan ISO dengan ISO+MO (p=0,013). Dengan demikian, ekstrak air daun kelor (Moringa oleifera) dapat menurunkan kadar nitrit (NO2-) secara signifikan (p=0,013) pada tikus yang mengalami infark miokard akibat induksi isoproterenol.

.....Cardiovascular diseases remain as the most common cause of death worldwide, accounted for 31% of all deaths. According to World Health Organization (WHO), 85% out of 17,9 million of people died due to cardiovascular disease, had heart attack and stroke. Moringa oleifera, which is found abundantly in Indonesia, is rich of anti-inflammation properties, such as quercetin, kaempferol, and flavonoids. Up to now, there is no research done to evaluate the effect of Moringa oleifera aqueous extract in myocardial infarction Sprague Dawley rats. This study was conducted using cardiac tissues from 3 groups of rats with different treatments: negative control group (no intervention), ISO group (85 mg/kg body weight of isoproterenol), and ISO+MO group (85 mg/kg body weight of isoproterenol and 200 mg/kg body weight of Moringa oleifera aqueous extract). Nitrite Assay kit (Griess Reagent) was used to evaluate nitrite concentration. Nitrite concentration was found to be significant between three groups (p- value = 0.009). Post-Hoc analysis revealed a significance difference between the negative control and ISO group (p=0.029) as well as the ISO and ISO+MO group (p=0.013). Hence, Moringa oleifera aqueous extract significantly reduced nitrite concentration in rats with myocardial infarction (p=0.013).