Ekstrak Daun Kapulaga Menurunkan Indeks Atherogenik dan Kadar Gula Darah Tikus Diabetes Induksi Alloxan

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Abstract	Cardamom (Amomum Cardomomum) leaves has antioxidant in vitro, which was supported by a high flavonoids and vitamin C contents. It has been reported that antioxidants improved atherogenic index and insulin secretion. The aims of this study were to explore the potential of cardamom leaves extracts as atherogenicity and blood glucose levels controlling in alloxan-induced diabetic rats. The animal experiments were 45 rats (Rattus norvegicus L.) Sprague Dawley strain, male, aged 2-3 months, weighing 210-310 g. After acclimatization for 1 week, rats were fasted overnight and then induced alloxan monohydrate at a dose of 120 mg/kg body weight. One week later, the rats in the test blood glucose levels using the Nesco Multi Check Glucose, Kemel IntÃƒÂ¢Ã‚Â€Ã‚Â™I Corp. ÃƒÂ,Ã‚Â via the lateral tail vein of rats, blood glucose check attached to the equipment, and after 5 seconds glucose levels was read. Atherogenic index was determined by the formula: {(Chol-tot) ÃƒÂ¢Ã‚Â€Ã‚Â“HDL}/HDL. Blood samples for analysis of total-cholesterol and chol-HDL taken from the eye vein, after the rat anesthetized using ketamine. Rats with blood glucose levels > 200 mg / dL, were selected as experimental animals, and then divided into 3 groups of 15 each. Group I, fed standard and cardamom leaves extract; Group II, fed standard and glibenclamide, whereas group III, only fed standard for 2 weeks. At the beginning diabetic, their weight dropped from 247.63+28.5 to 220.9+26.6 g (P< 0.05). However, after feeding cardamom leaves extract for 2 weeks their body weight were stable (P>0.05), the blood glucose levels decreased from 199.25+100.5 to 102.88+17 mg/dL (P<0.05), and the atherogenic index decreased from 0.61 to 0.38 (P< 0.05). Based on the result, it could be concluded that cardamom leaves extract is potential as anti-atherogenic, lowers blood glucose levels, and maintain weight loss in diabetic rats.ABSTRAKDaun ÃƒÂ,Ã‚Â kapulaga ÃƒÂ,Ã‚Â (Amomum ÃƒÂ,Ã‚Â Cardomomum) memiliki ÃƒÂ,Ã‚Â potensi antioksidan ÃƒÂ,Ã‚Â in ÃƒÂ,Ã‚Â vitro, ÃƒÂ,Ã‚Â yang ÃƒÂ,Ã‚Â didukung ÃƒÂ,Ã‚Â oleh ÃƒÂ,Ã‚Â tingginya kandunganÃƒÂ,Ã‚Â flavonoid danÃƒÂ,Ã‚Â vitaminÃƒÂ,Ã‚Â CÃƒÂ,Ã‚Â diÃƒÂ,Ã‚Â dalamnya. SenyawaÃƒÂ,Ã‚Â antioksidanÃƒÂ,Ã‚Â diketahuiÃƒÂ,Ã‚Â mampuÃƒÂ,Ã‚Â memperbaikiÃƒÂ,Ã‚Â indeks atherogenik dan sekresi insulin. Penelitian ini bertujuan untuk eksplorasi potensi ekstrak daun kapulaga sebagai pengendali atherogenisitas dan kadar glukosa darah tikus diabetes hasil induksi alloxan. Sebagai hewan percobaannya digunakan 45 ekor tikus (Rattus norvegicus L.) galur Sprague Dawley, jantan, umur 2-3 bulan, berat badan antara 210-310 g. Setelah dilakukan aklimatisasi selama 1 minggu, tikus dipuasakan semalam, lalu keesokan harinya diinduksi alloxan monohidrat dengan dosis 120 mg/kg berat badan (BB). Satu minggu kemudian, tikus di uji kadar glukosa darahnya menggunakan Nesco Multi Check Glucose, Kemel IntÃƒÂ¢Ã‚Â€Ã‚Â™I Corp. Melalui vena lateralis ekor tikus, darah dicucukkan ke alat check glucose, dan setelah 5 detik kadar glukosanya terbaca. Indeks aterogenik (IA) ditentukan berdasar rumus: (Kolesterol total-HDL)/HDL. Sampel darah untuk analisis kolesterol dan HDL diambil dari vena mata, setelah tikus dianestesi menggunakan ketamin. Tikus dengan kadar glukosa darah > 200 mg/dL, dipilih sebagai hewan percobaan, kemudian dibagi menjadi 3 kelompok masing-masing 15 ekor. Kelompok I, diberi pakan standar dan ekstrak daun kapulaga; kelompok II, diberi pakan standar dan glibenklamid; sedangkan kelompok III, hanya diberi pakan standar selama 2 minggu. Saat awal diabetes, berat badannya turun dari 247,63+28,5 menjadi 220,9+26,6 g (P<0,05). Akan tetapi setelah 2 minggu diberi ekstrak daun kapulaga, berat badannya menjadi stabil (P>0.05), kadar glukosa darahnya menurun dari 199,25+100,5 menjadi 102,88+17 mg/dL (P<0.05), dan indeks atherogenik menurun dari 0,61 menjadi 0,38 (P<0.05). Kesimpulannya, ekstrak daun kapulaga berpotensi sebagai antiatherogenik, menurunkan kadar glukosa darah, dan mempertahankan berat badan tikus diabetes.
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