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International Medical Journal Malaysia (https://www.scopus.com/sourceid/19900195005?origin=recordpage)
Volume 16, Issue 1, 1 June 2017, Pages 83-90 Open Access

Anti-atherosclerotic effects of Eurycoma longifolia (tongkat ali) in rats fed on high-fat diet (Article)

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Abstract

View references (27)

Atherosclerosis in cardiovascular disease (CVD) is a growing health problem, especially in developing countries. Hyperlipidemia is known as a dominant risk factor for the development of atherosclerosis. This study was designed to investigate the effects of Eurycoma Longifolia (EL) also known as Malaysian Ginseng/Tongkat Ali on the testosterone level, biochemical changes of lipid profile and intima media thickness (IMT) in rats fed on high-fat diet. Twenty young, adult male Sprague-Dawley (SD) rats were housed for 12 weeks. After one week of acclimatization, they were randomly divided into four groups of 5 animals each and treated for 12 weeks as follow: Group ND was given only normal diet, group NDEL was given normal diet and EL extracts (15mg/kg) dissolved in distilled water, group HFD was given only high fat diet and group HFDEL was given high fat diet and EL extracts (15mg/kg). Rats which were treated with EL (NDEL and HFDEL) showed a significant increase ($p < 0.05$) in the testosterone levels. There was a significant decrease ($p < 0.05$) in triglyceride (TG) in HFDEL group compered to HFD group. The histological sections of aortas revealed a significant decrease ($p < 0.05$) in IMT in HFDEL as compared with HFD group. No histological changes were observed in NDEL group compared with ND group and there was no significant difference in IMT values between NDEL and ND. These findings suggest that EL is a promising protective agent against atherosclerosis induced by high-fat diet.

Author keywords

Atherosclerosis Cardiovascular diseases Eurycoma longifolia (Tongkat Ali), Hyperlipidemia Intima media thickness Testosterone

ISSN: 18234631
Source Type: Journal
Original language: English
Document Type: Article
Publisher: International Islamic University Malaysia