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### Abstract

**Background:** Coronary artery disease (CAD) is caused by the accumulation of fatty streaks in the intima of vessels leading to atherosclerosis. Nowadays, medicinal herbs are attracting much attention in this field. Hence, the aim of the present research was to compare the effects of hydroalcoholic extract of the *Dorema Aucheri* and statins on CD40 protein expression.

**Methods:** Thirty white male rabbits (1250-1500 grams) were purchased from the Pasteur Institute of Tehran. The animals were housed in clean metal hutches and acclimatized on rabbit chow for two weeks prior to the commencement of the experiment. The animals were subsequently randomly divided into five groups, each containing six rabbits. The feeding experiment was conducted at room temperature of 28°C. After two weeks, four groups of rabbits were fed with a diet containing 1% cholesterol (hypercholesterolemic diet), hypercholesterolemic diet plus 6 mg/kg lovastatin, hypercholesterolemic diet plus 200 mg *Dorema Aucheri* extract, and hypercholesterolemic diet plus 400 mg *Dorema Aucheri* extract for 45 days. The fifth group only received a normal diet without cholesterol.

**Findings:** Different levels of staining were observed in the 30 sections taken from the thoracic aorta of the rabbits. However, the two groups that received the extract were not significantly different. The staining was completely inconsiderable in the control.

**Conclusion:** *Dorema Aucheri* extract had a significant effect on decreasing CD40 proteins formation. This property might be due to the presence of flavonoids, antioxidants and other compounds such as furanocoumarins that have been identified in the plant extract.

**Keywords:** *Dorema aucheri*, CD40, Cholesterol, Atherosclerosis, Lovastatin.

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