

The Second International Congress of Immunology, Asthma and Allergy

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Background: Atherosclerosis is a condition in which an artery wall thickens as a result of the accumulation of fatty materials such as cholesterol. Although the atherosclerotic process is not fully understood, atherosclerosis is initiated by inflammatory processes in the vessel wall in response to retained low-density lipoprotein (LDL) molecules. Once inside the vessel wall, LDL molecules become susceptible to oxidation by free radicals, and become toxic to the cells. The damage caused by the oxidized LDL molecules triggers a cascade of immune responses which over time can produce an atheroma. The LDL molecule is globular shaped with a hollow core to carry cholesterol throughout the body.

Materials and Methods: LDL was extracted and purified from human plasma followed by two copper (CU) and malondialdehyde (MDA) were oxidized. Mice were divided into three groups of 10, and after three weeks, all the biochemical parameters evaluated were based diet, the immunized CU-LDL, or MDA-LDL in them. The saline control group was used. Immunized at weeks 3, 6, 9 and 12 was repeated again with the same material at each stage antibody OX-LDL were measured. At the end of the twelfth week, every month for a diet rich in cholesterol and fat were. Biochemical factors in the study were tested again, and then the veins of fat (Fatty Streak) in the aorta and coronary arteries (right and left) were evaluated pathologically.

Results: Immunization with the CU-LDL in hypercholesterolemic mice significantly reduced cholesterol and triglycerides and FBS FBS was also significantly reduced in this group compared to hypercholesterolemic fatty streaks were observed.) was decreased. CU-LDL in hypercholesterolemic group immunized with changes in mean CRP than control and hypercholesterolemic groups compared to the group immunized with MDA-LDL cholesterol significantly decreased.

Conclusion: That is to say that T lymphocytes are present in atherosclerotic lesions in the early stages of an inflammatory reaction that perpetuate a vicious cycle. Smooth muscle cells and macrophages engulf oxidized lipoproteins cravings and cytoplasmic droplets they contain Cholesteryl esters and filled them with bubbles and foamy appearance (Foam cells) occurs. Also, the blood vessels in places that are prone to atherosclerosis (arterial bifurcation) is such that it puts pressure on endothelial cells. This increases the molecules (Adhesion molecules) on the surface of endothelial cells, the ability of these cells to adhere to other cells and enhance the environment. Also inflammatory molecules in the high-pressure environment than is produced by endothelial cells. The hemodynamic pressures and increased the activation of inflammation in the artery walls as blood lipoproteins.

Keywords: Immune system, atherosclerosis, MDA-LDL, CU-LDL, autoantibodies OX-LDL, fatty streak

B-39) The Evolution of Immune Response Against Hepatitis B Among Vaccinated Medical Students of Ardebil University of Medical Sciences, Ardebil, Iran

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Background: hepatitis B infection is a major public health problem worldwide. Despite Immunologic response to the vaccine is not perfect, evaluation of immunity in vaccinated and identification of non-responder is necessary.

Materials and Methods: A descriptive-cross sectional study was carried out using date, such as age and weight and height and smoking and the time lasting from the third dose of vaccine injection and so on, from 219 medical students of Ardebil University of Medical Sciences (ARUMS) in 2012 (1390) that received just complete vaccine series at zero, one and six months. The serum of 219 ARUMS were examined in order to determine Hepatitis B surface antigen and anti-HBs by Diaplus ELISA kit. Appropriate immunologic response was supposed to be HBs-Ag ≥ 10 mIU/ml. the collected data were analyzed using SPSS 17.00. P value < 0.05 was considered significant.

Results: Of 219 students, 71 (32/4%) cases were male and 148 (67/6%) cases were female. 92% had positive anti-HBs response and 8% were none-responder. No one showed positive HbsAg. Vaccine response was unrelate to age, height, weight and smoking status, but it relate to the time lasting from the third dose ($P < 0.005$).

Conclusion: Considering the results of the present and previous researches from other contries, we can emphasize that the mass vaccination has been effective medical students.

Keywords: Hepatitis B, Immunity, anti-HBs, HBs-Ag, medical students

B-40) Anti-inflammatory Properties of Propranolol in Vitro

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Background: Propranolol is a non-selective beta-adrenergic blocker widely used in treatment of several cardiac

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problems. The inhibitory effects of propranolol on tumor growth, metastasis and inflammation have been shown by various studies. Peripheral blood mononuclear cells (PBMCs) and vascular endothelial growth factor (VEGF) play important role in inflammation. The present study was conducted to assess the propranolol effect on proliferative response and VEGF production in human PBMCs.

Materials and Methods: PBMCs from healthy adult volunteers were isolated by ficoll-hypaque-gradient centrifugation. Then the cells were cultured in complete RPMI-1640 medium and subsequently incubated with different concentrations of propranolol (0.34 – 340 μ M) in the presence or absence of phytohemagglutinin (PHA) for 12, 24 and 48 hours. The cell proliferative response was then assessed by 3-[4,5-dimethyl thiazol-2,5-diphenyltetrazoliumbromide (MTT) reduction method and quantity of VEGF produced by PBMCs was measured by enzyme-linked immunosorbent assay (ELISA).

Results: Propranolol significantly reduced the proliferation and VEGF production in human PBMCs dose-dependently, compared to untreated control cells.

Conclusion: According to the results of this study propranolol have inhibitory effect on proliferative activity and VEGF production in human PBMCs. Thus anti-inflammatory properties of propranolol may be in part due to its suppressive effect on proliferation/ VEGF production in PBMCs. So propranolol could have potential implication in treatment of inflammatory-based diseases.

Keywords: propranolol, proliferation, VEGF, PBMCs

B-41) Induction of Apoptosis in Lymphoblast and Stomach Cancer Cell Lines by Protein Components of Licorice Root

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Background: Licorice is an herbal plant with broad therapeutic and pharmacological effects ranging from anti-inflammatory to regulation of immune system. Recent scientific studies have shown that non protein components in licorice root, such as polyphenols and flavonoids can inhibit the growth of cancer cells.

Materials and Methods: In the present study, we investigated cytotoxic effects of licorice root protein components on two cancer cell lines involve Jurkat E6.1 and AGS. After treatment of cell lines with 100, 200, 400, 600, 800 and 1000 μ g/mL of licorice proteins for 72 hours, MTT and apoptosis assay was performed and results were compared with lymphoblastoid cell lines (LCLs) as normal cells.

Results: Results were shown the optimum dose with at least effects on normal cells was 400 μ g/mL of licorice protein extract. Percentage of Cell Viability in LCL, Jurkat and AGS cell lines were 90.90 ± 4.38 , 65.23 ± 6.87 and 52.45 ± 4.64 and apoptotic percent of treated cells were 5.75 ± 0.49 , 11.96 ± 0.93 and 18.90 ± 1.43 respectively.

Conclusion: Our findings demonstrate that protein components of licorice root have the potential of apoptosis effects on cancer cells.

Keywords: Licorice, Cancer, Herbal Medicine

B-42) HLA-B*27, HLA-B*27 Subtypes and Clinical Correlations in Iranian Patients with Ankylosing Spondylitis

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Background: The aims of this study were to define HLA-B*27, its subtypes and exploring the clinical correlations in Iranian patients with ankylosing spondylitis (AS).

Materials and Methods: A total of 163 AS patients were assessed for clinical manifestations and severity using