Background: Following the inefficacy of AIDS vaccines, some new approaches have been suggested by utilizing adjuvants for increasing the immunogenicity of vaccines. In previous studies, the adjuvant effect of Naloxone on the HSV1, Killed-Listeria Monocytogenese and Salmonella Typhimurium vaccines has been confirmed. In the present study, for the first time, the adjuvant effect of Naloxone in combination with HIV1-P24-Nef fusion peptide as a vaccine model has been evaluated. Materials and Methods: Female Balb/c mice were divided into five groups. Group 1 was immunized subcutaneously on the day 0 with 20 µg of P24-Nef fusion peptide with Alum adjuvant and 6mg/kg of Naloxone, and on the days 21 and 42, they were boosted with the final volume of 200 µl of vaccine. Group 2 was immunized with fusion peptide and alum. The control groups received Naloxone, alum and PBS under the same conditions, respectively. At the day 42, the proliferative responses of lymphocytes and the secretion rates of IL-4 and IFN-γ cytokines were determined using MTT method and commercial ELISA kit, respectively. Also the quantity of IFN-γ producing lymphocytes was evaluated by ELISPOT method. Finally, the specific antibody titers as well as IgG1, IgG2a, IgG2b, IgG3 and IgM isotypes were assessed by ELISA method. Results:Immunization of mice with Naloxone led to a significant increase in the proliferative responses of lymphocytes, IFN-γ cytokine and total antibody titer with poly-isotypic form in comparison with the control groups. Conclusion: The results suggest that Naloxone drug could be useful in HIV vaccine research.
Keywords: Naloxone, Alum, Humoral Immune Response, Peptide Vaccine

919. Immunity to Hepatitis B Vaccine amongHealth Care Workers

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Aim: The aim of this study was to determine the level of anti-HBsAg (hepatitis B surface antigen) in vaccinated high risk group.Materials andMethods: We measured anti-HBsAg concentration in blood sera of adult students aged from 19 to 37 years old. Five milliliters (5ml) of blood sample was taken from 210 cases four months after the second dose and 126 out of 210 cases three months after the third dose of hepatitis B vaccination. All blood samples were analyzed for anti-HBsAg by ELISA method.Results: 125 out of 210 samples (59.5%) showed anti-HBsAg concentrations higher than 20mIu/ml and considered immune after the second dose of hepatitis B vaccination. Also, 99.2% of samples had anti-HBsAg higher than 20mIu/ml three months after the third dose of the vaccination. Non-immune cases in males were more than females (41.2% vs.40.1%).Conclusion: our results reinforce the importance of hepatitis B vaccine in adolescents and suggest that three dose of hepatitis B vaccine is necessary to increase the seropositive rate of anti-HBsAg in adults.
Keyword:HBsAg, Vaccination, Yazd student

920. Immunogenic Potentials of *Acinetobacterbaumannii*Phospholipase D; An *in silico*Approach

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Background: *Acinetobacterbaumannii*is an emerging bacterial pathogen of considerable health care concern. However, little is known about the organism's virulence factors. During the evolution, microbes develope different mechanisms topenetrate into the host cells. One of such mechanisms is the production of enzymes which destroy cell membranes. The term "phospholipases" is referred to a heterogeneous group of enzymes capable to hydrolyze one or more ester linkage in glycerophospholipds. According to the specific bond cleaved in the phospholipid molecule they are indicated as A, B, C and D. With the increasing bacterial resistance to multi drugs and evolution of new strains, there is a need to attend the matter urgently and find appropriate vaccine candidates. Materials and Methods: In this study, keeping the above in mind,protein sequence availability and similarity search was done. Related sequences obtained from genebank, were aligned. Secondary structure prediction and 3D structure modeling was done after appropriate sequence selection. The humoral and cellular immunity induction potential was analyzed with different bioinformatics tools, in order to assess immunological points.Prediction of allergens and mapping of IgE epitopes were also carried out.Results: Antigenicity and solubility predictions showed that phospholipase D possess plentiful B cell epitopes in both linear and 3D structure. Thus it represents effective antigen for antibody production.This protein had the potential to induce CD^{4+} and CD^{8+} immune responses against the pathogen. In addition it is not allergent. *In-silico* analysis revealed that phospolipase D of *Acinetobacterbaumannii*can serve as an appropriate target for development of a novel class of vaccines with divergent mechanism of action.
Keywords: *Acinetobacterbaumannii, in silico,* Phospholipase D

921. Co-administration of Interleukin 12 Gene Adjuvant Can Boost Immune Response of Hepatitis C Core DNA Vaccine

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Background: Hepatitis C viral infection is the major cause of acute hepatitis and chronic liver disease and remains the leading cause of liver transplants. but an effective vaccine is not yet available. DNA vaccines represent a promising means for HCV vaccination because they tend to induce a Th1-biased cell-mediated response in the host cell. Since the strength of the immune responses induced by DNA vaccines has been relatively weak, it is necessary to develop novel methods for circumventing this limitation, such as codelivery of novel cytokine adjuvants. Thus, immunostimulatory cytokines as interleukin IL-12 has been studied as genetic adjuvants. Materials and Methods: In the present study, we are going to administrate HCV Core DNA vaccine with Interleukin 12 (IL -12) adjuvant, then evaluate cell immune response. For this purpose, we were inserted gene of HCV Core gene into pCDNA 3.1 eukaryotic expression vector. Female C57BL/6 mice were immunized intramuscularly with three doses of 90µg DNA vaccines on Days 0, 14, and 28. Two weeks after the last immunization, HCV specific cytotoxic T lymphocyte (CTL) activities were measured by LDH CTL cytotoxicity assay, MTT Lymphocyte proliferation assay. IFN – γ and IL - 4 cytokine assay were detected by ELISA assay. Results: Obtained results showed enhanced lymphoproliferative response and cytotoxic T-lymphocyte activity compared with negative controls. LDH, MTT and cytokines assay demonstratedthatthe co-injection of IL-12 can enhance immune responsesof HCV core DNA vaccine alone. Conclusion: Our study demonstrated that administration ofIL-12 adjuvantwith core gene enhancedcellularimmuneresponsesinmice. The study warrants further investigation as a potential vaccine against HCV infection so Intramuscular co-injection HCV Core-IL-12 DNA vaccine induced strong and significant cellular immune responses in mice.
Keywords: Hepatitis C virus, DNA Vaccine, Core, IL-12; C57BL/6.

922. Comparison between Episomal and Stable Transfection of *Leishmaniatarentolae* using Vaccine Candidate Antigens

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Background: *Leishmania*as an intracellular protozoa, transmitted to their mammalian host by the bite of infected sand flies and cause a group of diseases known as Leishmaniasis. Despite attempting different vaccination strategies, no human vaccine is yet available against this disease. Among different species of *Leishmania*, *Leishmaniatarentolae* is a lizard parasite which is non-pathogenic to humans and could be used as an expression system for producing virulence proteins or epitopes as well as to be used as an efficient and safe recombinant live vector in vaccinology.Cysteine proteases (CPs) are among virulent factors in Leishmania and acting as candidate antigens for vaccine development. Previously it has been shown that CPs immunization with two genes or recombinant proteins of CPA and CPB individually or fused together with various adjuvant are able to elicit a protective immune response against *L. major* in BALB/c. Here, we presented two different approached in order to have recombinant *L. tarentolae* expressing cpa/*cpb/egfp*. MaterialS and Methods: In this study, knock-in *L. tarentolae* line was generated by transfection method to express a heterologous triple fusion gene encoding *cpa/cpb/egfp*. For this purpose, two different expressions approaches, episomally bearing rDNA (ribosomal DNA) promoter and integratively to rRNA locus of genome, were used and two lines of