

hypermethylation of promoter regions are known to be a cause of gene expression silencing and pathogenesis in many genetic disorders. JMJD1A is a crucial gene for the final step of spermatogenesis. On the other hand, during male meiosis both sex chromosomes are transcriptionally silenced and the period of silencing appears to be limited to the pachytene stage. After this stage, they reactivate in early spermatides. It has been shown that the locus of Androgen Receptor (HUMARA) is methylated at the pachytene stage. In this study we prepared testicular biopsy from Iranian azoospermic infertile men for investigation of methylation status of JMJD1A and HUMARA genes. Tissue sample of 5 obstructive azoospermic patients were used as normal controls. MS-PCR (Methylation Specific PCR) was set up to study the methylation status. Patients with non-obstructive azoospermia and infertility showed different pattern of methylation compared to normal controls. In brief, 100% of controls showed only unmethylated allele. In HUMARA patient group, 2 patients (11.8%) showed methylated allele, the rest (88.2%) showed unmethylated allele. In JMJD1A, patient group, 5 patients (16.6%) showed only methylated allele. 2 patients (7%) showed both methylated and unmethylated alleles and the other showed only unmethylated allele. This is the first evidence of involvement of epigenetic changes in JMJD1A promoter region in male infertility.

Keywords: male infertility, methylation, azoospermia, JMJD1A, HUMARA

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Extraction of sesame cholesterol to survey the possibility of replacing it for horse serum (HS) in Mycoplasma cultures

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The possibility of replacing various sources of cholesterol instead of HS in Mycoplasma cultures (to produce Mycoplasma vaccines) because of limitation of horse keeping centers in Iran and lack of quick access to HS is of great importance. In this survey the amount of total cholesterol in sesame was measured according to the methods of Liebermann-Burchard method and Alcyon 300i (abbott) apparatus. Sesame's cholesterol was extracted and by Chloroform-Methanol-Acetone, Chloroform-Methanol and Acetone and measured by the two methods mentioned above. We used Thin Layer Chromatography (TLC) to observe cholesterol in the extract. Then we prepared separated suspensions of extracted cholesterol and sesame and used in culture media for mycoplasmas. Results of this study showed that the rate of extracted cholesterol in Chloroform-Methanol-Acetone method was more than the other methods. Mycoplasmas had the most proliferation in media with HS and media with sesame and extracted cholesterol had caused less proliferation. But the diameters of colonies in this media were bigger than HS. Finally, a better growth of microorganism can be achieved by creating a balance of the rate of supplement and extracted cholesterol from different sources for Mycoplasma cultures.

Keywords: cholesterol, sesame, mycoplasma

P-10-824-2

Estimation and extraction of cholesterol from different sources to be used in Mycoplasma cultures instead of horse serum (HS)

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The possibility of replacing various sources of cholesterol instead of HS in Mycoplasma cultures (to produce Mycoplasma vaccines) because of limitation of horse keeping centers in Iran and lack of quick access to HS is of great importance. In this survey the amount of total cholesterol in egg yolk (EY), dried milk and almond was measured according to the methods of Liebermann-Burchard method and Alcyon 300i (abbott) apparatus. Egg yolk cholesterol was extracted by the methods of Chloroform-Methanol-Acetone, Chloroform-Methanol and Acetone and measured by the above mentioned methods. We used Thin Layer Chromatography (TLC) to check the existence of cholesterol in the extracts. Separated suspensions of extracted cholesterol, egg yolk, dried milk, and almond were prepared and used in culture media for mycoplasmas. Results of this study showed that the amount of extracted cholesterol in Chloroform-Methanol-Acetone method was more than other methods. Mycoplasmas had the greatest proliferation in media with egg yolk and media with dried milk, almond and extracted cholesterol had less proliferation. But the diameter of colonies in this media was bigger than HS. Therefore, egg yolk is the best alternative for horse serum in mycoplasma cultures. Finally, a better growth of microorganism can be achieved by creating a balance of the rate of supplement and extracted cholesterol from different sources for mycoplasma cultures.

Keywords: cholesterol, egg yolk, dried milk, almond, Mycoplasma

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Comparison of seminal folate and vitamin B12 between normozoospermic and azoospermic men

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Folate and vitamin B12 are important for cell proliferation during spermatogenesis and development of spermatozoa. Folate deficiency causes distribution of DNA synthesis. Cobalamin is an important factor in folate metabolism. It is known that vitamin B12 and folate deficiency may impair fertility. The aim of this study was to determine the vitamin B12 and folic acid levels in semen of normozoospermic and azoospermic men. Semen samples were collected from 74 azoospermic and 79 normozoospermic control subjects referred to the Avicenna Infertility Clinic (AIC) for infertility treatment. The concentration of vitamin B12 and folic acid in semen was analyzed, using radioimmunoassay (RIA). Finally, the results of two groups were compared using t-test. The results showed that the concentration of vitamin B12 was significantly higher in normozoospermic men compare to azoospermic men (517.2±386.3 vs. 250.2±204.6 pg/ml). The mean value of folate (ng/ml) was 18.6±16.9 in normozoospermic group and 14.9±12.7 in azoospermic group. However there was no significant difference in semen folic acid content between the two groups. Also, there was a significant correlation between folate and B12 (R=0.25). Azoospermia in infertile men have different etiology; the current results

show that vitamin B12 and folate deficiency are not the cause of azoospermia. Higher levels of vitamin B12 in normozoospermic may be the result of an increased demand for active spermatogenesis.

Keywords: folate, vitamin B12, normozoospermia, azoospermia, semen, male infertility

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The role of estrogen in pathogenesis of migraine

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Migraine is a common episodic headache disorder that affects 12% of the general population. It is characterized by unilateral throbbing headache lasting from 4h to 3 years. It is divided into aura and without aura subtypes. Associated symptoms include nausea, vomiting and sensitivity to light, sound and head movements. 18% of the women and 6% of men suffer from migraine. Migraine can be considered a peculiar response of the central nervous system to a variety of stimuli. Migraineurs have a low threshold from migraine attacks, and this low threshold may be genetically determined. Migraine is understood as a neurovascular disorder. The headache is triggered by temporal, cortical or brainstem dysfunction. The neuronal disturbances lead to vasodilation and release of proinflammatory substances within the dura mater which in turn sensitize peripheral and central neurons within the trigeminal system. The influence of estrogen on migraine is evident by three fold greater prevalence among women than men, and by significant changes in migraine incidence with changes in female reproductive status. The role of estrogen in the pathogenesis of migraine is substantiated by studies of abrupt estrogen fluctuations. Estrogens enhance neuronal excitability and vasodilation, and both effects lead to an increased propensity for migraine. Estrogen affects vasculature through stimulation of nitric oxide release, especially during the luteal phase. Levels of neuropeptide Y, galanin and CGRP are modulated in concert with estrogen level fluctuations. Additional serotonin synthesis and degradation and neuronal firing appear to be influenced by estrogen. Epidemiological, pathophysiological, and clinical evidence link estrogen to migraine headaches.

Keywords: migraine, estrogen, vasodilation, trigeminal system, aura, CGRP

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Association between paraoxonase-1 activity and the extent of coronary stenosis

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Paraoxonase (PON1) can prevent oxidized low-density lipoprotein formation and development of atherosclerotic lesions. However, studies on the association between PON1 activity and the extent of

coronary stenosis and underlying mechanism(s) are limited. In this study, the relationship between paraoxonase and arylesterase activities of PON1 and the severity of coronary stenosis together with determination of PON1 phenotypes in the studied patients have been investigated. Paraoxonase and arylesterase activities were measured in 61 patients with coronary stenosis of <50% and 63 patients with coronary stenosis of >70%. Individual human serum phenotyping for the PON1 Q192R polymorphism was achieved through dividing the paraoxonase activity in the presence of 1M NaCl by arylesterase activity. Patients with stenosis of <50% had significantly higher PON1 activity ($p<0.05$) and HDL-Cholesterol ($p<0.03$) compared to those with stenosis of >70%. No significant difference ($p>0.05$) was observed in the phenotype distribution of males and females. According to the current study, there are significant differences in paraoxonase and arylesterase activities and also HDL-C levels between patients with coronary stenosis of <50% and those with coronary stenosis of >70%. Therefore, this study provides further support for the important role of paraoxonase activity in coronary atherosclerosis.

Keywords: paraoxonase-1, coronary stenosis, high density lipoprotein, PON1 phenotype

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Preparation of new melatonin-horse radish peroxidase conjugate

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Melatonin (N-acetyl-5 methoxytryptamine) measurement in biological fluids is important and several methods such as immunoassays, HPLC, etc. have been developed for this purpose. In this study, by combination of two protocols (Periodate oxidation, Mannich reaction) melatonin was conjugated to Horse Radish peroxidase enzyme (HRP) and separated by size exclusion chromatography, used in immunoassay by monoclonal antibodies. Results showed that the method of conjugation is much better than others and this conjugate can be used for immunoassay of melatonin. In this assay detection limit was found to be 10pg/dl.

Keywords: melatonin, HRP, immunoassay

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Effect of Azadirachta indica (Neem) and glycine max (Soybean) extracts on alloxan-induced male diabetic rabbits

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In the present study antidiabetic potential of Neem and Soybean extracts (aqueous and alcohol) has been evaluated in alloxan-induced diabetic rabbits. Eighteen healthy, male rabbits were divided into