Acute Toxicity of Profetur and Metiferon

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Was studied the acute toxicity of substances metiferon and profetur by intraperitoneal administration in rats and mice. Preparations were introduced in different doses to determine the maximum tolerated dose and lethal absolute dose. At high doses of profetur animals became inhibited, apathetic, didn't react to stimuli audible and tactile intensity initially moderate and then high, caused tonic seizures. At high doses of metiferon, animals showed signs of peritoneal irritation, aggression, high excitability, tonic seizures, and stereotyped movements. Median lethal dose (LD_{50}) determination was made according to the method of Kerber. LD_{50} of profetur is 630 mg/kg for mice. LD_{50} of metiferon is 520 mg/kg for mice and 480 mg/kg for rats.

Association Study between Idiopathic Male Infertility and THE MTHFD1 G1958A SNP

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Couple infertility is a global health problem and according to the World Health Organization approximately one couple in seven is affected by fertility or subfertility problems. Male infertility in humans has been acknowledged as the cause of couple's inability to have children in 20-50% of total cases and although there have been much progress in understanding its etiology many of the case are still considered to be idiopathic, arising from an unknown cause. The MTHFD1 G1958A SNP (single nucleotide polymorphism) by altering the structure of the encoded enzyme, a trifunctional enzyme which catalyzes the interconversion of 1-carbon derivatives of tetrahydrofolate could lead to an abnormal folate status, hyperhomocysteinemia and altered DNA synthesis. The folate metabolic pathway is essential for DNA methylation, DNA synthesis, as well as methylation of various other substrates, thus a disruption to this cellular pathway may lead to major pathologic consequences. By means of molecular genetic techniques, respectively PCR-RFLP (Polymerase Chain Reaction – Restriction Fragment Length Polymorphism) we investigated the possible role of MTHFD1 G1958A SNP in the etiology of male infertility by comparing the distribution of this SNP in two groups: a group of 66 men with idiopathic azoospermia or severe oligozoospermia and a control group of 67 healthy men which have at least one child. Statistical analysis was performed by means of chi-square and Fisher's exact tests. The genotype distribution in the two groups was in agreement with the Hardy-Weinberg Law. We obtained the following genotype stratification: 18 (27.3%) G/G, 27 (40.9%) G/A, 21(31.8%) A/A in the cases group compared to 19(28.4%) G/G, 36(53.7%) G/A, 12(17.9%) A/A in the control group; with a p value of 0.23 (odds ratio: 1.85, CI 95%: 0.71-4.82) when comparing the mutant homozygous status (A/A) to the normal homozygous status (G/G). Because of the profound social, familial, medical and emotional outcomes that male infertility generates a greater emphasis should be made in understanding its etiology. After performing the first study on a Romanian population, due to the similar distribution of the studied polymorphism in the two groups we can state the MTHFD1 G1958A SNP is not a risk factor for idiopathic male infertility in our study group.