STUDYING OF MUTAGEN EFFECT OF GOSSYPOL IN AN EXPERIMENT

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Abstract: *to enter gossypol to white rats in a dose of 1000 mg/kg causes augmentation of number of chromosomal abberation (9,86 and 9,70) whereas in control group their level by 1,3 times was lower (7,86 and 7,62). The dose of gossypol of 100 mg/kg caused only a tendency to augmentation of number of chromosomal abberation, and the dose of 10 mg/kg didn't cause changes of number of abberation in marrow cells in experienced white rats. Therefore, gossypol in toxic doses can lead to augmentation of chromosomal aberrations of cells of marrow of white rats, threshold and invalid doses don't cause changes of number of chromosomal aberrations.*
Keywords: *cottonous oil, gossypol, experimental animals, remote effects, mutagen action, chromosomal aberrations.*

ИЗУЧЕНИЕ МУТАГЕННОГО ДЕЙСТВИЯ ГОССИПОЛА В ЭКСПЕРИМЕНТЕ

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Аннотация: *введение госсипола белым крысам в дозе 1000 мг/кг вызывает увеличение числа хромосомных аббераций (9,86 и 9,70), тогда как в контрольной группе их уровень был в 1,3 раза ниже (7,86 и 7,62). Доза госсипола 100 мг/кг вызывала лишь тенденцию к увеличению числа хромосомных аббераций, а доза 10 мг/кг не вызывала изменений числа аббераций в клетках костного мозга у опытных белых крыс. Следовательно, госсипол в токсических дозах может приводить к увеличению хромосомных аберраций клеток костного мозга белых крыс, пороговые и недействующие дозы не вызывают изменений числа хромосомных аберраций.*
Ключевые слова: *хлопковое масло, госсипол, экспериментальные животные, отдаленные эффекты, мутагенное действие, хромосомные аберрации.*

The cottonous oil received from cotton seeds on traditional technology and produced by the enterprises of the oil and fat industry of the Republic of Uzbekistan contains free gossypol which effect finally isn't studied taking into account the possible remote effects [2, p. 23]. With extraction of oil from them in Uzbekistan more than 100 years are engaged in a traditional way of cultivation of cotton and processing of cottonous seeds [3, p. 175]. However, effective methods of full purification of cottonous oil of free gossypol still aren't found, and its existence in oil does a product unsafe [1, p. 179].

Results of researches on studying of influence of gossypol on chromosomal abberation of cells of marrow of the white rats receiving once intragastric various doses of gossypol: 1000 mg/kg (1st group); 100 mg/kg (2nd group); 10 mg/kg (3rd group) and the 4th group of animals was control (table 1).

Frequency of emergence of abberation of chromosomes and their types in metaphase plates of marrow of white rats after single intragastric administration of gossypol are presented in table 1.

Table 1. Frequency of emergence of abberation of chromosomes and their types in metaphase plates of cells of marrow of white rats after single intragastric administration of gossypol

Animals (each group on 6)	Number			Types of abberation	
	metaphase plates	cells and abberation	abberation	micro fragments	fragments of hromatidin
Control	300	7,86	7,62	6,83	4,0
1st group	300	9,86	9,70	6,54	5,0
2nd group	300	7,92	7,82	6,74	4,0

3rd group	300	7,81	7,60	6,81	4,0

It is established that administration of gossypol to white rats in a dose of 1000 mg/kg causes augmentation of number of chromosomal abberation (9,86 and 9,70) whereas in control group their level by 1,3 times was lower (7,86 and 7,62). The dose of gossypol of 100 mg/kg caused only a tendency to augmentation of number of chromosomal abberation, and the dose of 10 mg/kg didn't cause changes of number of abberation in marrow cells in experienced white rats.

Therefore, gossypol in toxic doses can lead to augmentation of chromosomal aberrations of cells of marrow of white rats. The threshold and invalid doses established on all-toxic effect don't cause changes of number of chromosomal aberrations.

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