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ORIGINAL ARTICLE

Effects of Garcinia Cambogia on the Weights of Normal Albino Mice

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ABSTRACT

Aim: Effects of available weight reducing drugs on the weights of a normal albino mice.
Methodology: In this study, total 39 adult albino mice were used and were divided in three groups containing 13 animals in each. Group I served as control and was given 1 ml of distilled water once a day for 8 weeks. Group II and Group III served as experimental group and mice in these groups were given 0.5 mg of Slim Smart and Ultra Slim Plus drugs dissolved in 1 ml of distilled water respectively once a day for 8 weeks. To support these results weights of kidneys were also measured and relative tissue width index was calculated and compared with control group.
Results: The weight of the animals increased in the experimental groups as compared to the control group. The overall difference for final weight among three groups was highly significant with p-value <0.01. When final weight compared group wise, the experimental groups had significantly higher weight as compared to control with p-values <0.01and 0.028
Conclusion: Both Ultra Slim Plus and Slim Smart drugs cause weight to increase in the individuals who are not obese and have BMI in normal range
Keywords: Weight loss, Garcinia Cambodia, kidney, Albino mice

INTRODUCTION

Obesity is major health problem these days and its incidence is increasing worldwide[1]. Obesity is a chronic disease that has been resistant to existing preventive and therapeutic modalities[2]. Depression has a bidirectional association with obesity. It may be a consequence of obesity and may act as a leading cause of obesity[3].

The use of herbal therapy has amplified extremely over the last three decades with about 80% of people worldwide reliant on them for some percentage of elementary healthcare[4]. Research has been done on few natural weight reducing herbs contained in these drugs like Garcinia Cambodia, Aristolochic acid, caffeine, etc[5].

The objective of the study was to find our effects of available weight reducing drugs on the weights of a normal albino mice.

METHODOLOGY

An experimental study carried out in experimental research laboratory of UVAS, Lahore after IRB permission. A total of 36 healthy adult male albino mice were chosen and each mouse was weighed. Temperature of room was maintained at 27-30˚C and 12 hours of light and dark cycle was continued. Animals were fed with commercially prepared food and water ad libitum and were divided into three groups: Group I (Distilled water), Group II (Slim Smart drug), Group III (Ultra Slim plus drug). Random Sampling Technique was used for assigning albino mice in each group. Drug dose after calculation was 0.5 mg and it was diluted in 1ml of distilled water and fed by oral gavage for 8 weeks. Weight of each animal was measured before dissection. Kidneys were washed with saline and were weighed. Data was analyzed by using SPSS version 20.

RESULTS

The detail of results is given in tables 1,2,3,4,5,6

Table 1: Weight of animals at the start

Groups	Mean	SD
Group I	24.50	1.891
Group II	24.45	1.886
Group III	24.35	1.875

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Table 2: Weight of animals at the end

Groups	Mean	SD
Group I	24.42	2.26
Group II	32.95	5.24
Group III	28.38	3.09

Table 3: Group wise comparison for weight at end

Group (I)	Group J	Mean Difference (I-J)	Std. Error	P-value
Group I	Group II	-8.54*	1.47	0.000
	Group III	-3.96*	1.47	0.028
Group II	Group III	4.57*	1.47	0.010

Table 4: Kidney weights at the end

Groups	Mean	SD
Group I	0.60	0.23
Group II	0.55	0.11
Group III	0.55	0.08

Table 5: Relative tissue weight index of kidneys.

Groups	RTWI	
	Mean	SD
Group I	2.45	0.92
Group II	1.68	0.30
Group III	1.95	0.36

Table 6: Group wise comparison for RTWI of kidney

Group (I)	Group J	Mean Difference (I-J)	Std. Error	P-value
Group I	Group II	0.77*	0.23	0.006
	Group III	0.50	0.23	0.097
Group II	Group III	-0.27	0.23	0.483

DISCUSSION

The final weights of animals in Group II and III were documented 32.95±5.24 gms and 28.38±3.09 gms respectively. The weight of the kidney of the group I animals was 0.60±0.23 whereas the said values for group II and III were 0.55±0.11 and 0.55±0.08 gms respectively. The mean relative tissue weight index for Group II was 1.68±0.30 and for Group III was 1.95±0.36, while for group I was 2.45±0.92. At the end of the experiment, the mean kidney size was 7.61±0.27 mm for Group I, while the Group II and III had 7.81±0.62 and 7.94±0.64 mm respectively. This variance among three groups was however non significant (p-value= 0.300).

Final weights of animals of both experimental groups increased instead of diminishing. A study by Sripradha R and Magadi SG on Garcinia Cambogia supports the weight reducing effect of garcinia cambogia. In this study, Garcinia Cambogia extract was administered along with high fat diet and it displayed reduced upsurge in weight of the animal and in plasma leptin levels. It contains hydroxyl citric acid, a competitive inhibitor of ATP citrate lyase (the citrate cleavage enzyme). In this study, they suggested that the reduction in leptin and body weight observed might be as a consequence of inhibitory effect of hydroxyl citric acid on food intake[6].

In the current study, increase in the intake of food of mice given Ultra Slim Plus and Slim Smart was compared to the control group mice. This is comparable to the effects of Garcinia Cambogia through lessening the concentration of leptin as found in the research by Sripradh R and Magadi SG in 2015[6]. In the present study, the possible explanation for increase in weight could be because of excessive intake of food owing to the reduced levels of leptin.

CONCLUSION

Both Ultra Slim Plus and Slim Smart cause weight to increase in the individuals who are not obese and have BMI in normal range.
Conflict of interest: Nil

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