

N87**Relationship of varicocele with height and obesity in men presenting with infertility**

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Introduction and Objectives: We planned this study to investigate the relation between obesity and varicocele, and to determine the impact of height on this issue.

Material and Methods: The files of 791 patients who admitted to urology clinic for infertility were analyzed retrospectively. The data of 245 patients with left palpable varicoceles were compared with the data of 248 men who admitted the same clinic with sexual problems, without infertility or history of varicocele. The patients with right or bilateral varicoceles were not included in the study. Body mass index (BMI) was used in order to analyze the relation between height and weight. The patients with varicoceles were grouped as normal (BMI < 25 kg/m²), overweight (BMI between 25–30 kg/m²) or obese (BMI > 30 kg/m²). The means were compared using Student's t test, the age and height comparisons according to BMI were made using ANOVA, and the frequency comparisons were performed using Chi-square test.

Results: Two hundred ninety eight of 791 patients (37.7%) had varicoceles. The mean±SD BMI of 245 left varicocele patients (25.1±3.4 kg/m²) was significantly smaller when compared to the control group (26.5±3.9 kg/m²) (p<0.001). The heights of the varicocele patients (172±5.7 cm) were longer than the control group (170±5.7 cm) (p<0.001). The number of the varicocele patients decreased as the BMI increased, and the number of the normal-weight varicocele patients (n=119; 48.6%) was approximately five fold of the ones that were obese (n=24; 9.8%) (p<0.001). The mean height of the obese varicocele patients (167±2.1 cm) was significantly shorter than the ones who had a normal weight (173±5.9 cm) and than the ones who were overweight (171±5.3 cm) (p<0.001). The mean age of the obese patients (36.5±11.1 years) was greater than the normal-weight ones (25.3±5.7 years) and than the ones who were overweight (29.2±7.9 years) (p<0.001) (Table 1).

Conclusions: We found a significant and inverse relationship between obesity and varicocele. We observed that the patients with varicocele were taller and thinner when compared to the control group. The heights of the obese varicocele patients were shorter than the non-obese ones. Increased fat tissue in the obese patients may decrease the pressure at their left renal vein, and the patients' shorter stature and hence their shorter left internal spermatic vein may result in a lower hydrostatic pressure in this vein.

Table 1. Comparison of the varicocele patients according to their BMI categories

	Age (year)	Height (cm)	Weight (kg)	BMI (kg/m ²)
Normal (n = 119)	25.3±5.7	173±5.9	67.2±5.9	22.3±1.4
Overweight (n = 102)	29.2±7.9	171±5.3	78.5±6.3	26.6±0.9
Obese (n = 24)	36.5±11.1	167±2.1	90.4±4.6	32.3±1.5
Total (n = 245)	28±8.1	172±5.7	74.2±9.6	25.1±3.4
p*(1-2)	<0.001	0.05	<0.001	<0.001
p*(1-3)	<0.001	<0.001	<0.001	<0.001
p*(2-3)	<0.001	0.001	<0.001	<0.001

* ANOVA test. The values are presented as mean±standard deviation

N88**Protective effect of vitamine E and melatonin against radiation induced damage in testis of rat**

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Introduction and Objectives: To investigate the effects of vitamin E and melatonin on gamma ray induced damage in testes of rats.

Material and Methods: This study was conducted on 40 male Wistar type rats, weighing between 200 and 250 g, aged between 10 and 12 weeks. The rats were divided into 4 groups, each including 10 rats. Total body radiation was applied with 90 cm, 90% isodose curve using Cobalt 60 apparatus (Picker ATC C9). Thirty-two cGy/minute gamma radiation was applied to an area of 40×40 cm of where 5 rats were placed. The period of exposure time was 11 minutes 30 seconds, and a total of 360 cGy gamma radiation was administered in each session. Following radiation procedure, Group 1 was administered intraperitoneal Vit E (100 mg/kg/day), Group 2 received melatonin (100 mg/kg/day) and Group 3 rats were administered saline (100 ml/kg/day). In Group 4 rats, intraperitoneal saline (100 ml/kg/day) was administered without any radiation procedure. Testes were removed after 5 days of drug administration and were analyzed to measure malondialdehyde (MDA) levels and histopathologic injury. Lipid peroxidation was measured by the method of Ohkawa et al and testicular injury and spermatogenesis were graded as described by Johnsen et al. Mann-Whitney U test was used in the comparison of histopathologic tissue damage points and MDA levels between groups and p<0.05 was accepted significant. Spearman correlation analysis was used in the analysis of the correlation between histopathologic tissue damage and MDA levels in each group.

Results: Tissue MDA level measured in rats receiving melatonin did not show significant difference when compared to control group (p>0.05) (Table 1). Similarly there was no significant tissue injury on histopathological examination between melatonin administered and control groups. However, both tissue MDA level and tissue injury were found to be significantly increased in groups which were administered vitamin E and serum physiologic compared to the control group (p<0.05).

Conclusions: Melatonin displays a remarkable tissue protective effect by inhibiting the damage mediated by free radicals after radiation. The same effect could not be obtained with Vitamin E. Thus, the cytoprotective effect of melatonin can be of value in preserving testicular functions after radiation procedure.

Table-1: Tissue MDA levels and histopathologic scores in groups

Groups	MDA (nmol) (Mean±SD)	Histopathologic scores (Mean±SD)	Correlation (r)
G1(Radiation+Vit E)	4.9±0.1 (a)	5.1±0.5 (d)	0.623
G2 (Radiation+Melatonin)	3.5±0.6 (b)	6.1±0.7 (e)	0.782
G3 (Radiation+SP)	5.9±0.3 (c)	4.2±0.7 (d)	0.584
G4 (Only SP)	3.4±0.3 (b)	7.7±0.5 (e)	0.771

Different superscripted letters in the same column indicate statistical significance between groups. MDA: malondialdehyde, VitE: Vitamin E, SP: Serum Physiologic, G: Group