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Effect of Acute Ingestion of Ice Water on Blood Pressure in Relation to Body Mass Index

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Abstract : Background: The physiological response to water drinking in healthy subjects is an integrated response with an increase in sympathetic vasoconstrictor activity with induced bradycardia. Obesity is a modern pandemic, implicated in the pathogenesis of cardiovascular disease. In autonomic failure patients, water drinking has been shown the increased high blood pressure and bradycardia. Acute effects of ice water ingestion on blood pressure (BP) in relation to body mass index (BMI) is not addressed in literature. Objectives: Objective of this study is to evaluate BP before and after ingestion of cold water in all the three groups. Methods and Material: 60 healthy subjects between the age group of 18-24 yrs were selected and assigned into 3 groups based on BMI. BMI less than and equal to 25 kg/m2 is selected as Normal BMI group ,between 25- 29 kg/m2 as Overweight and BMI more than and equal to 30 kg/m2 as Obese. Procedure: Basal and after ingestion of 250 ml of cold water (7 0C ± 0.5 0C)BP was recorded in all the 3 groups. Results: Basal and after ice water ingestion BP increased statistically in all 3 groups. Conclusion: On acute ingestion of ice water overweight, obese may have more sympathoexcitaion compared to normal subjects.

Keywords : blood pressure, body mass index, ice water, symathoexcitation
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