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Metabolic syndrome is associated with increased oxo-nitrative stress and asthma like changes in lungs

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Studies stating obesity related risk of asthma reports significant increase in the number of people all around the globe. In view of this, mice model of obesity were found to develop airway-hyperresponsiveness (AHR) but the connecting link for role of obesity or adipogenic diet and asthma remained unclear. Previous research studies have shown the altered L-arginine and nitric oxide (NO) metabolism that stand out to be the common ground for asthma and metabolic syndrome as it also does not depends on the Body Mass Index (BMI). Such metabolic changes not only increase the asthma risk but also pose a significant threat to global health. Research also shows the consequences of high-sugar diet as an inducer for MetS without causing obesity affecting arginine/NO metabolism and airway function. Our group investigated 18 weeks long mice model using C57Bl/6J mice on normal, high fat and high fructose diet on mice model of MetS which showed us the dysfunctional arginine/NO metabolism and also some features of asthma. The result signifies high-fat-diet group developed obesity or adiposity as compared to high fructose diet group. Changes in the levels of risk factors like hyperinsulinemia, hyperglycemia and hyperlipidemia were found positive in both study groups. Hypertension in high fructose group was also seen. Asthma like changes were found after 18 weeks using airway hyperresponsiveness (AHR) as a measure and seen in both obese and non-obese mice groups. In summary, NO reduction and less arginine availability in lungs supported with oxo-nitrative stress indicated the link between obesity and asthma.

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Patch test results of the dental personnel with contact dermatitis

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Objectives: Dental personnel have high risk of occupational contact dermatitis. The aim of this study is to detect the materials which cause contact sensitization and the frequency of contact dermatitis by using patch tests with European standard series and dental screening series in dental personnel.

Methods: Between August 2008 and July 2009, 461 dental personnel working in Ankara (Turkey) were examined and age, gender, previous history of dermatitis, area of the skin affected and clinical diagnosis were noted. About 198 (43%) of the dental personnel were diagnosed contact dermatitis. 65 of the dental personnel accepted to be patch tested.

Results: Dental technicians, dentists and dental nurses constitute 69.2%, 24.6% and 6.2% of patch tested 65 patients, respectively. Positive reactions to at least one allergen were detected with European standard series at 20% and with dental series at 10.8% among the dental personnel. The most common allergens were nickel sulfate (12.3%), acrylates (6.1%) and para-tertiary-butylphenol-formaldehyde resin (4.6%). The most common acrylate was ethylene glycol dimethacrylate (3.1%).

Conclusions: We believe our study will be helpful to dermatologists about frequency of contact dermatitis among dental personnel and allergens that cause contact sensitivity for developing new methods to protect the personnel in dentistry against sensitization.

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