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RM-03 Serum superoxide dismutase levels correlate with disease activity markers in stable bronchiectasis

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Purpose: Increased levels of manganese superoxide dismutase (Mn SOD) and decreased catalase expressions at the transcriptional levels as compared with adjacent normal lung tissues have recently been reported by our group in non-small cell lung cancer. While the role of local antioxidant levels are clearly related to apoptosis and accummulation of genetic damages thus perpetuating tissue damage, little is known the levels of SOD among patients with bronchiectasis, a common chronic inflammatory and infective disorder among the Chinese. We have therefore performed this prospective study to evaluate the levels of SOD in the serum and sputum of patients with stable bronchiectasis, and attempted to correlate these with disease activity parameters on these patients.
Methods: After a baseline follow up of 3 consecutive weekly visits, fresh sputum and serum were obtained from out-patients at the research clinic. SOD was measured by standard biochemical methods on serum and sputum sol phase. Lung function, 24h sputum volume, exacerbation frequency, sputum microbiology and the number of lung lobes affected by bronchiectasis were determined for each patient. Correlations between these parameters and serum and sputum SOD levels were determined.
Results: There were 85 subjects (29M) recruited, and there were no significant difference in serum or sputum SOD levels between the genders, patients with and without *Pseudomonas aeruginsoa* infection, different aetiology groups for bronchiectasis, or smoker and non-smokers ($p>0.05$). There was a negative correlation between serum SOD with FVC % predicted ($r=-0.25$, $p=0.02$) and positive correlation with 24h sputum volume ($r=0.27$, $p=0.01$). There were otherwise no significant correlations between serum SOD with the other aforementioned parameters ($p>0.05$, data not shown). Sputum SOD levels did not correlate with the aforementioned disease activity parameters ($p>0.05$).
Conclusion: Serum levels of SOD correlates with disease activity and severity markers in bronchiectasis and this strongly suggests an important role for oxidants in the systematic effects of bronchiectasis.

RM-04 Computed tomographic evaluation of the role of craniofacial and upper airway morphology in obstructive sleep apnoea subjects in Chinese

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Introduction: It has been postulated that craniofacial factors have a relatively bigger contribution to development of obstructive sleep apnea in Chinese than in Caucasians. This study was designed to evaluate the contribution of craniofacial factors using computed tomography in the development and severity of obstructive sleep apnea in Chinese.
Method: Subjects were recruited from the Sleep Clinic of the University Department of Medicine, Queen Mary Hospital. Standard in-laboratory polysomnogram (PSG) were performed and manually scored using standard criteria. Cephalometric parameters and pharyngeal cross-sectional areas at the level of velopharynx (VA) and hypopharynx (HA) were measured from computed tomographic scan (CT). The roles of these parameters and other anthropometric and demographic characteristics in the development of OSA (apnea hypopnea index, AHI ≥ 5) and in the determination of severity of OSA were explored by multiple logistic and multi-nominal regression analysis.
Results: Ninety two subjects recruited and 56 had AHI ≥ 5. Compared with normal subjects, those with OSA were heavier and older and had smaller velopharynx size and VA/HA ratio, lower positioned hyoid bone, longer soft palate, and more relative retrognathism. In a multi-nominal regression model, after controlling for body mass index and age, subjects with severe OSA (AHI > 30) had more relative retrognathism and longer soft palate, while those with mild/moderate OSA had larger velopharynx to hypopharynx ratio.
Conclusion: In our Chinese cohort, craniofacial factors and upper airway morphology contributed to development of OSA. Having controlled for obesity, relative mandibular retrognathism was associated with more severe OSA.

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