Diabetes mellitus in head & neck infections: 18 years' experience in a single tertiary centre

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ABSTRACT

Introduction: Diabetes mellitus continues to rise worldwide together with all its complications including a risk developing potentially fatal head neck infections responding poorly to treatment. **Methods:** A cross sectional study was done. Records of 554 adult patients diagnosed with head and neck infections for the past 18 years were reviewed. Fifty-six were diabetic. The control cases were selected by matching the age, gender and ethnicity. A total of 112 patients (56 diabetes and 56 non-diabetes) were recruited. Variables were compared between the 2 groups and analyzed using the SPSS software. **Results:** Diabetic patients developed head neck infections at an earlier age, required more surgical intervention and longer hospital admission compared to the non-diabetic patients. The most common organism cultured was *Klebsiella pneumonia* for the diabetic group. *Mycobacterium tuberculosis* alarmingly was the most common organism found in the non-diabetic group. **Conclusion:** The approach in managing head neck infections in diabetic patients has to be more aggressive and holistic for a better outcome. The choice of antibiotics for DM patients should be towards antimicrobials covering *Klebsiella pneumoniae* while further investigation for *Mycobacterium tuberculosis* should be performed in non-diabetic patients with head neck infections not responding to antimicrobials, especially in endemic areas.

Correlation of growth hormone and insulin like growth factor in children with obstructive sleep apnoea syndrome: A comparison of obese and non-obese children

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ABSTRACT

Introduction: This study was performed in order to investigate the independent effect of OSAS on the growth hormone/insulin-like growth factor (GH/IGF) axis, which is poorly understood. The objective of the study specifically aims to investigate the independent mechanistic role of OSAS in causing metabolic dysregulation. **Methods:** Subjects enrolled in this study were a cohort of children ranging from age 2 to 15 years old, from July 2019 to December 2019. Blood samples were collected to analyze baseline GH and IGF-1 level and results were compared with age and gender specific reference range. All children underwent Level 1 Polysomnography. Chi squared test and independent t-test were used to compare statistical differences between categorical variables. **Results:** Over a period of six months, 33 children aged between 2 to 15 years were enrolled in this study, 12 females (age 5.91+/-1.28 years, BMI 18.96 +/-2.2 kg/m^2) and 21 males (age 8.38 +/- 2.2 years, BMI 19.23 +/- 3.2 kg/m^2). Among the study population, 8 children were found to be obese (age 10.88 +/- 1.3 years, BMI 28.54 +/- 3.6 kg/m^2). Baseline measurement of IGF-1 showed a reduction of secretion for obese children with OSAS and non-obese children with OSAS with a p value of 0.036. However, no significant reduction was observed with GH level across both study populations, p-0.071. As severity of OSAS increased, reduction in IGF-1 secretion was more evident especially among non-obese children with OSAS. Mixed sleep apnoea had a more pronounced reduction in IGF-1 secretion comparison to obstructive type p-0.032. **Conclusion:** These study findings suggest that OSAS by itself is independent of obesity status of a child, and does cause reduction in GH/IGF-1 secretion.