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Title: Sleep-disordered breathing in children with craniofacial anomalies

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Body: Background: Children with craniofacial anomalies are at risk for sleep disordered breathing (SDB). Their polysomnograpic and laboratory findings may differ from those of infants and children with SDB secondary to adeno-tonsillar hyperthrophy. The aim of the study was to evaluate the rate, characteristics, severity and laboratory findings of SDB in children with syndromatic craniofacial anomalies. Patients and Methods: Twenty-six consecutive infants and children with syndromatic craniofacial anomalies and snoring or noisy breathing were referred for an initial PSG to rule out SDB. Results: Specific diagnoses and syndromes were: Crouzon's (n=7), Apert (n=5), Saethre-Chotzen (n=1), Goldenhar (n=1), idiopathic craniosynostosis (n=2), achondroplasia (n=8) and Pierre-Robin (n=2). Their mean age was 5.1 years, none was overweight or obese. Of these patients, 19/26 (73%) had evidence of SDB and 7 (27%) had primary snoring. In patients with SDB, the mean apnea-hypopnea index (AHI) was 10.3 (median=5.7, range 2.5-65.0). Abnormally increased CO2 was observed in 12/26 (46%). Laboratory results (mean, median, range) were: wide range CRP (7.2, 1.0, 0.1-33.5), total cholesterol (135, 125, 112-180), HDL (40, 37, 23-59), LDL (75, 67, 52-115), triglyceride – normal, fasting glucose and insulin – normal. Conclusion: The results confirm a high prevalence SDB in children with craniofacial anomalies with a higher rate of carbon-dioxide retention. Underlying chronic inflammation exists also in these patients. Metabolic changes were not found.