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Increase of Volumes in Upper Airways for Antley-Bixler and Down Syndrome Patients through RAMPA Therapy

Abstract:

We report an increase in the upper airway volume of a patient with Down syndrome and a patient suspected of Antley-Bixler syndrome through RAMPA (Right Angle Maxillary Protraction Appliance) therapy. RAMPA Therapy is a craniomaxillofacial growth guidance method that uses both the extraoral device for anterosuperior protraction and an intraoral expansion device. By applying mechanical force through the RAMPA, the deformation of the skull is caused, and various symptoms are improved, and in particular, the increase of volumes in the upper airway is very significant. In patients with Down syndrome, the volume increased 2.24 times from 5.0 cc to 11.2 cc after 140 days of treatment, and in patients with Antley-Bixler, the volume increased 2.17 times from 7.2 cc to 15.6 cc after 9 months of treatment. In a situation where statistics show that approximately, 55% of Antley-Bixler syndrome patients die from respiratory difficulties before the age of 10, an increase in the upper airway volume can be considered a very important result for prolonging life. Symptoms such as nasal congestion, snoring, otitis media, maxillary hypoplasia, prone sleeping, and poor posture were significantly improved. In addition, the facial features changed significantly. Many patients with rare diseases are currently being treated and improved with RAMPA therapy, and we report research results that will brighten the future of children.

Biography

Yuko Okai is working as a nurse. She realized the importance of "things that can be eaten with the mouth," so she entered Osaka Dental University at the age of 28 and obtained her PhD degree in pediatric dentistry, believing that it was related to children's growth and development. Based on her own experience of suffering from nasal congestion since childhood, she opened the "children and Women Dental Clinic", in Tokyo, Japan, in 2017 with the belief that she should spread RAMPA to many children.