Effect of Rapid Maxillary Expansion on Nocturnal Enuresis

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Abstract: One of the effects of rapid maxillary expansion (RME) is a reduction in nighttime bedwetting. The aim of this prospective study was to investigate the effects of RME on nocturnal enuresis (NE) in children who are liable to psychosocial stress conditions. Eight children (six boys and two girls) who had not responded to different conventional medical treatments were included in the study. The subjects were between eight and 11 years of age with a mean age of nine years five months, and were residents of a government orphanage. All the children wet the bed at least one time every night and previously had been subjected to unsuccessful conventional treatment modalities. Maxillary expansion was performed using a rigid acrylic RME device. Lateral and PA cephalometric films and dental casts were used in the assessment of the dentofacial and nasopharyngeal structures. Data were analyzed using a paired t-test. In seven of the eight children, remarkable improvement was observed in NE after three to six mm RME. At the end of eight months observation, the mean rate of improvement in bed-wetting in the seven successful subjects was 74.2% (57.6–87.5%). The findings also indicated significant changes in the nasomaxillary structures and nasopharyngeal airway dimensions with the use of RME. However, none of the subjects became completely dry, and the disorder is probably multicausal including psychological emotions and tensions. This study demonstrated that RME treatment could cause relief for the enuretic children. However, the long-term success rate is still questionable. (Angle Orthod 2003;73:532–538.)

Key Words: Nocturnal enuresis; Rapid maxillary expansion; Nasopharyngeal airway