

Hearing and middle ear status in children and young adults with cleft palate

Akademisk avhandling

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av

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- I Flynn, T., Möller, C., Jönsson, R., Lohmander, A. (2009). The high prevalence of otitis media with effusion in children with cleft lip and palate as compared to children without clefts. *International Journal of Pediatric Otorhinolaryngology*, 73, 1441–1446.
- II Flynn, T., Lohmander, A., Möller, C., Magnusson, L. (2012). A longitudinal study of hearing and abnormal middle ear status in adolescents with cleft lip and palate. *Laryngoscope*, Epub ahead of print.
- III Flynn, T., Persson, C., Möller, C., Lohmander, A., Magnusson, L. (2013). A longitudinal study of hearing and middle ear status in individuals with cleft palate with and without additional malformations/syndromes. Submitted.
- IV Flynn, T., Möller, C., Lohmander, A., Magnusson, L. (2012). Hearing and otitis media with effusion in young adults with cleft lip and palate. *Acta Oto-Laryngologica*, 132 (9), 959-966.

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ABSTRACT

The overall aim of this thesis was to define the hearing and prevalence of abnormal middle ear status across childhood and into young adulthood and attempt to understand the effects of a higher prevalence of abnormal middle ear status on the auditory system. The prevalence of abnormal middle ear status is higher in children with cleft lip and palate or cleft palate (CP±L) than in children without CP±L. Little is known when or if the prevalence of abnormal middle ear status decreases as children age or the effects of this higher prevalence of abnormal middle ear status on hearing. The studies examined audiological and otological data from children with CP±L and children without CP±L at 1, 1.5, 3 and 5 years of age, analysed audiological and otological data from adolescents with CP±L with and without additional malformations at 7, 10, 13 and 16 years of age, and presented hearing and speech recognition performance from a group of young adults with CP±L. The prevalence of abnormal middle ear status was higher in children with CP±L than in children without CP±L. This higher prevalence of abnormal middle ear status decreased significantly with age and normalized by 13 years. Individuals with CP±L also presented with worse hearing in the low and mid frequencies which also normalized by 13 years of age. However, the hearing thresholds in the higher frequencies did not improve. When abnormal middle ear status was present, children with CP±L presented with significantly higher hearing thresholds than children without CP±L. In young adults, poorer speech recognition performance existed in those with abnormal middle ear status on the day of testing as compared to those without abnormal middle ear status. Higher prevalence of abnormal middle ear status is evident in individuals with CP±L. Also when a hearing loss is present, individuals with CP±L experience higher hearing thresholds than those without CP±L. This higher prevalence of abnormal middle ear status results in poorer high frequency hearing which could potentially lead to challenges in academics. It may also lead to difficulties understanding speech in social situations. Therefore, individuals with CP±L need regular audiological and otological follow-up to ensure management is appropriate and timely to ensure optimal speech, language, and auditory development as the presence of abnormal middle ear status affects hearing outcomes.

Keywords: hearing, middle ear status, OME, cleft palate

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