

Title

THE EFFECT OF PREGNANCY ON THE SINGING VOICE

Presenters

Tamás J. Altorjay¹, Ádám Perényi², Gábor Ádám³

University of Szeged, ¹Institute of Education, ²Department of Otorhinolaryngology, Head and Neck Surgery,
³Department of Pulmonology, Szeged, Hungary

tamas.altorjay@gmail.com, .perenyi.adam@med.u-szeged.hu, adamg@deszkikorhaz.hu

Abstract

Introduction: we investigated with one well educated, professional mezzo – more than ten years vocal education, finished master degree at the University (4. regional/touring – according to taxonomy by Bunch, Dayme) - during the third trimester – from 29th week to 40th week - of her first pregnancy, and after the child-birth (two and six weeks), during the beginning of the nursing. We recorded her singing voice once a week, after 15 minute long warming-up, based on humming, syllables with nasal and soft palate consonance with different vowels. As first-step the participant formed sustained vowels [a, i, u] on a comfortable pitch and volume, as long as possible for Maximal Phonation Time (MPT). As second-step, we surveyed her range of voice, singing on every pitch decrescendo. As third-step she repeated two sentences – at a comfortable pitch and volume - for analysing the Fundamental frequency (F0) of high [i, y] and deep [o, a] vowels. In the recording of the sustained vowels we examined also the voice volume and the quality of the voice with analysing Signal to Noise Ratio (SNR) and Singing Power Ratio (SPR). Rigid endoscopy and fiberoscopy of the larynx were performed twice before – on the 31th and 37th weeks - and twice after – four and six weeks – child-birth. Spirometry was performed twice before, on the 31th, 34th, 38th weeks, and once after – four weeks - the child-birth. **Results:** during the pregnancy the MPT decreased by every vowel, mostly by [a]. The SPR decreased by vowel [a] and [u], but stayed constant by vowel [i]. The SNR decreased by every vowel, mostly at the last three weeks of pregnancy. The mean of the voice volume stayed almost constant. The range of the voice also decreased mostly in the upper range. The F0 of the speaking vowels slightly increased, by every examined vowel. During Endoscopy we found slight oedema on the vocal folds first only on the 37th week. Four weeks after the child-birth the oedema of the vocal folds was still visible and a small polyp was detected on the left vocal fold. Six weeks after child-birth the oedema and the polyp resolved. With spirometry we found slightly increase of FVC (Forced Vital Capacity), and FEV1 (Forced Expiratory Volume in 1 second) during the third trimester, and expressed decrease four weeks after the child-birth. **Conclusion:** with accepting the decreasing voice capacity is possible to use the singing voice during the third trimester of the pregnancy, but during the first six weeks after the child-birth, during intensive nursing is not recommended.