Feminine after cricothyroid approximation?

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Background

A cricothyroid approximation (CA) is a common procedure to raise the voice pitch in male-to-female transsexuals. A number of studies have evaluated the effectiveness of a CA in creating a more female voice from an acoustic perspective, i.e. by instrumentally measuring and comparing pitch preoperatively and postoperatively. From these studies, it appears that a CA can indeed raise pitch in male-to-female transsexuals. As pointed out by Brown et al. (2000), however, an increase in pitch is of little value unless it accurately indicates listeners' perceptions of gender.

Purpose

The purpose of the present study was to further investigate the effectiveness of a CA in feminizing the voice from a perceptual perspective. In particular we investigated how "female" a panel of judges rated transgender clients who underwent a CA compared to biological males and biological females. Additional aspects studied were the contribution of the physical appearance of the clients and the possible role of the judges' own gender in the voice perception.

Method

Video-recordings of 9 male to female transsexuals (MFT), 9 non-transsexual males (NTM) and 9 non-transsexual females (NTF) were presented twice to the panel of judges in a randomized order: first auditory only (only hearing a subject's speech) and subsequently audiovisual (hearing and seeing a subject's speech). The panel of judges, 42 students (21 female, 21 male) from different disciplines except speech language pathology and audiology, rated the participants' voices on a 100mm visual analog scale with "very male" and "very female" as left and right extremes respectively.

Results

The group of MFT obtained scores that were situated in between those of the NTM and the NTF, both for the auditory only and the audiovisual mode of presentation. Perception of femaleness significantly correlated with average fundamental frequency for both modes of presentation. There was a trend for the judges to score femaleness higher in the audiovisual mode than in the auditory only mode. In both the auditory only and the audiovisual mode the male judges rated femaleness of the MFT significantly higher than the female judges.

Conclusion

The main conclusion from the present study appears to be then that a CA approximation is a viable option to raise the voice pitch in FMT but that this surgery alone may not be sufficient to create a voice that is perceived as a totally female. It is quite likely that in addition to pitch other voice characteristics must be modified. It remains to be determined, however, which other factors should be given attention to in particular.

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