

Editorial

Hormones and Hearing: An Assessment of Sex Differences in Auditory Tests in Pre- and Post-Menopausal Women

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This month, the editors are featuring an investigation conducted by Trott and colleagues from the University of Kentucky who have studied the effects of age-related hormonal changes on auditory function. In the introduction, the investigators assert that estrogen has been found to be produced in the human brain and, in fact, estrogen acts as a neuromodulator that serves to suppress the pre-synaptic gamma-aminobutyric acid (GABA) release. Additionally, estrogen has been reported to influence cochlear blood flow.

The authors report that auditory brainstem response (ABR) latencies are consistently shorter and ABR amplitudes larger for pre-menopausal women. These differences disappear for post-menopausal women. According to the authors, post-menopausal women may complain of hearing difficulties that are not simple losses of sound loudness. If it was found that hormone replacement therapy maintained the sex differences in

electrophysiological recordings identified in younger females, then the hearing difficulties reported by post-menopausal women might disappear with treatment.

With this knowledge as a backdrop, the investigators conducted an investigation of 28 adult subjects, where 14 of the subjects were young, pre-menopausal women and 14 subjects were post-menopausal women. The investigators conducted a number of investigations that included conventional audiometric tests, auditory brainstem response and middle latency response examinations and a battery of auditory processing tests.

I am not going to spoil the ending of this mystery, except to say that differences were observed. The editors hope you will enjoy this issue of the JAAA.

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