Is a Cochlear Implant in Your Future? Ruth Litovsky, PdD

In today's world, the prevalence of hearing loss is steadily increasing, as highlighted by the World Health Organization (WHO). This rise is attributed to various factors, including an aging population, exposure to noise, and genetic predispositions. While hearing aids are frequently the first form of intervention, the advancements in cochlear implant technology has been a historically transformative solution for individuals with severe to profound hearing loss. However, Dr. Litovsky shared that CIs are now considered as a viable option for single sided deafness, and those with moderately severe hearing loss who have little to no improved speech recognition with hearing aids.

Historically, hearing loss in one ear was often overlooked, with the assumption that individuals could manage adequately with their remaining functional ear. However, research conducted by experts like Dr. Ruth Litovsky, Ph.D., emphasizes the importance of bilateral hearing in understanding speech and navigating the auditory world effectively. This shift in perspective has led to increased consideration of cochlear implants, particularly in cases of sudden deafness and single-sided deafness, where traditional interventions may prove inadequate.

For those that don't know how cochlear implants work, Dr. Litovsky shared some videos and described the surgical process. CIs work by bypassing damaged hair cells in the cochlea and directly stimulating the auditory nerve with electrical signals. Recent developments in gene therapy offer promising avenues for restoring auditory function by targeting specific genetic mutations responsible for hearing loss; however, the potential for these advancements coming to fruition any time soon is slim. Interestingly, advancements in CI technology have expanded candidacy criteria to now include certain individuals with moderately severe hearing loss that have significantly poor word recognition, citing the functional benefits they can provide beyond traditional hearing aids.

Dr. Litovsky explained the differences between acoustic hearing (hearing via natural hearing and/or hearing aids, and electric hearing (hearing via a cochlear implant.) Acoustic hearing utilizes tens of thousands of frequency channels, whereas a cochlear implant utilizes between 12-22 channels. There are now devices that, for some candidates, can combine the use of a hearing aid and a cochlear implant processor in the same ear so that the individual can benefit from acoustic amplification in frequencies not stimulated by the CI electrode array.

Dr. Litovsky further shared that benefits of improved hearing cannot be overstated. Beyond enhancing communication and socialization, better hearing is linked to improved cognitive function, mental well-being, and overall quality of life. Research from institutions like Johns Hopkins University underscores the profound impact of hearing health on brain health, highlighting the need for comprehensive approaches to auditory care.