Acta Scientific Otolaryngology (ASOL)

Volume 2 Issue 1 January 2020

Editorial

Deafness: Present, Past and Future

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Received: November 21, 2019; **Published:** December 02, 2019

"Blindness separates people from things while deafness separates people from people"

Hellen Keller

Till a few decades back, otology, as a field, lagged behind majority of medicinal fields. However, despite limited funding for hearing research as compared to vision loss, cochlear implants revolutionized the whole picture [1].

Today there are more than 6 lakhs people worldwide who hear with the help of cochlear implants and the global average for cochlear implants is approximately 7 cochlear implants per million population per year. If it would not have been for the 'une recousse dans la tate' ("a boom within the head") experiments of Alessandro Volta in the 18th century, most of these 6 lakhs would still have probably been leading a life without sounds.

Over the last 3 decades, cochlear implants have undergone various changes however the basic design, functioning and mechanism have remained the same. There have been various groups doing research on optical cochlear implants (based on photoacoustic effect and optogenetics), nanotechnology based cochlear implants and biohybrid cochlear implants [2-4]. Hopefully we will soon have a newer way of stimulating the spiral ganglion cells. There is also a significant literature on cochlear duct length [5] and thereby discussion on individualized cochlear implants, which may have implications not only on hearing but also on preserving the inner ear structures. The most socially exciting work is on totally implantable cochlear implants, and that's probably something we would see in the next few years.

As surgeons, we need to remember, that a damaged electrode can be replaced but a damaged cochlea cannot be; this damage can be anatomical or functional and many times it goes unnoticeable during surgery. The future of stem cells and genetics may require some preserved cochlear structures. I hope that after 20 years these patients, whom we are operating upon today, do not look at us with anguish for destroying their inner ears to satisfy our surgical egos of inserting a 'crude' metallic array.

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