

Oral presentation

Auditory processing disorders in neurological patients and in patients with developmental disorders

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In the mid 1950's, Bocca, Calearo and Cassinari (1954) made the seminal observations that patients with temporal lobe tumours complained of hearing difficulties, despite the presence of normal hearing thresholds and normal speech recognition in quiet. Around the same time, Myklebust (1954) proposed that central auditory function ought to be considered and assessed in children with communication disorders. Over the last 20-30 years, it has become increasingly recognised that impaired structure and/or function of the brain may have little or no effect on hearing thresholds, but may cause deficits in other aspects of the hearing process. These deficits are collectively referred to as an "auditory processing disorder" (APD). Recent progress in auditory neuroscience has only just begun to translate into clinical practice, with the development of more sensitive and specific test batteries for APD, however, at the moment there are no universally accepted diagnostic criteria for APD. The first part of this presentation will discuss auditory processing deficits and related disabilities in neurological patients (e.g., in patients with cerebrovascular accidents, demyelinating disease etc) and how studies of patients with defined anatomical lesions may be complementary to functional imaging studies in normal populations in that they may help define brain regions that are necessary to support specific auditory functions. The second part of this lecture will review in brief what is known about the presence of auditory processing deficits in patients with developmental disorders such as dyslexia, attention deficit disorder and specific language impairment and will discuss some related controversies.