A case study of a cochlear implanted child with auditory neuropathy

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Abstract

Cochlear implants are now considered as a routine recommendation for enabling children to access the speech range of sounds when hearing aids have failed to do so. An operation which was hitherto labelled as being 'dangerous' and 'ground-breaking' is now considered almost routine, the next logical step in an audiological investigation for severely to profoundly deaf, pre-lingually deaf young children.

Auditory neuropathy is a not new form of deafness having been referred to in case studies as a paradoxical absence of auditory evoked potentials in patients with only slightly impaired hearing over the last 24 years (Worthington & Peters, 1980, Davis and Hirsh 1979). However, it has recently become more clearly defined and understood (Starr, Picton, et al, 1996) and identification of the population with this hearing disorder, which had been termed 'Auditory Neural Synchrony Disorder' in the past, (Halston 1995) is becoming clearer due to identified criteria.

Although in the USA pupils with auditory neuropathy have received cochlear implants, in the UK there are few cases reported of this instance. The pathology and aetiology of auditory neuropathy varies considerably with each case. Thus, even in the USA where there are considerable numbers of cochlear implants with this disorder, its very heterogeneity makes it difficult for any one to provide an unequivocal affirmative to the question of implantation being a successful entity for this group of children.

The author would like to remind the reader this is a study of a single case, thus its findings are limited to the extent in which they can be generalised in future instances. However, it is hoped that by looking closely at one instance of the phenomena it emphasises how crucial it is that professionals adopt a holistic approach in determining critical decisions regarding a child's management.