Letter

Speech disorder in Parkinsonism; use of delayed auditory feedback in selected cases

Sir: Severe alteration of speech, leading to total loss of intelligibility is rare in Parkinsonism but is usually refractory to treatment with drugs and to conventional speech therapy. We have had some striking success in a very few patients with the use of delayed auditory feedback (DAF). This has been previously tested in treating other speech disorders, in particular stammering and was applied to our first patient as his speech difficulty superficially resembled this condition.

This patient by the age of 40 yr had already suffered from Parkinsonism for eight years and while still mobile as a result of treatment with levodopa had a very rapid "festinating" speech associated with frequent blocking and hesitations which made it almost totally unintelligible. Application of delayed auditory feedback using a delay of 200 ms (as for stammerers) had no effect, but when he was tested with a short delay of 50 ms dramatic improvement resulted and was sustained as long as the apparatus was in use. Improvement was associated with a slowing of his speech so that syllables became clearly separated. Ten further Parkinsonian patients with varying degrees of speech impairment, most showing loss of volume, were then tested. Only one showed clear improvement and this was a man of 60 yr whose speech also was of the rapid "festinating" type showing hesitations akin to stammering. Improvement in both patients came and went abruptly as the apparatus was switched on or off but continuous use of the apparatus which allowed sustained benefit in speech was made possible only by the development at Aberdeen University of a light body-worn apparatus.¹ The figure shows the apparatus in close-up and in use on a patient.

With this apparatus the first patient maintained useful benefit as acknowledged by his wife as well as by himself and by us for about a year but by then he appeared to become habituated and the apparatus was no longer effective. The second patient is still finding the apparatus extremely helpful after two years use although his speech disorder from the

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1b

Figure (a) A prototype pocket-sized DAF instrument, complete with tie-clip microphone and two earpieces. (b) prototype pocket-sized DAF Speech Aid in use by a patient.

beginning was not as severe as that of the first patient.

This type of festinating speech difficulty is rare and we are unlikely to find many more suitable patients in this area on whom to test the apparatus. We feel that each region may have a few such patients who would derive benefit from this technique. The light body-worn apparatus (The Aberdeen Speech Aid) is now commercially available.*

Since preparing this brief communication our attention has been drawn to work presented orally² and to a recent paper.³ In the former, DAF techniques produced useful benefit in nine patients with ataxic or hypokinetic dysarthria including one patient with Parkinsonism. Those who improved seemed to show stuttering-like repetitions or irregular articulatory breakdown associated with bursts of increased rate. A short delay of 50 ms was found optimal in the Parkinsonian patient. In the latter paper as in our patients, a body-worn device was used for continuous application to treat dysarthria in a patient with supranuclear palsy who had a rapid, hypokinetic speech similar to that in our two patients. These two papers show close similarities to our findings and should further encourage others to test this technique.

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- Rosenbek JD, Wertz RT, Collins M. Delayed auditory feedback in dysarthria treatment. Paper presented to the American Speech and Hearing Association, Houston, Texas, Nov. 1976.
- Hanson WR, Metter EJ. DAF as instrumental treatment for dysarthria in progressive supranuclear palsy: a case report. *J Speech Hear Disord* 1980;45: 268-76.

*The Aberdeen Speech Aid is produced by: Malden Care, Malden House, 579 Kingston Road, Raynes Park, London SW20 8SD.

Matters arising

Myotonic dystrophy and thymoma

Sir: We read with interest the report of