"Echoing approval": a new speech disorder

Abstract We report the cases of two patients presenting a peculiar speech disorder, which we have named "echoing approval", in which the patients echo, in replying to questions in a dialogue with short phrases, the positive or negative syntactical construction of a question, or its positive or negative intonation, but without any repetition of whole or part of sentences. When asked about their symptoms, the patients replied 80% of the time with "yes, yes", "that's right", or "exactly" to positive questions and "no, no" or "absolutely not" to negative questions, regardless of their actual symptoms and oblivious to self-contradiction. In addition, when the examining doctor was speaking to a medical colleague in the patient's presence and using medical terminology that the patient did not understand, he/she agreed or disagreed with any sentence and technical word uttered in a way entirely dependent on the syntax or intonation used. To distinguish this speech disorder from echolalia or verbal perseverations, with which it may be superficially confused, we suggest that it be called "echoing approval", as it may be part one of the manifestations of the environment-dependency syndrome. This clinical picture was found to be associated with features of transcortical motor aphasia and frontal lobe signs. One patient had a bilateral callosofrontal malignant glioma and the other a probable multiple system atrophy with global deterioration, pre-eminent frontal release signs, diffuse leukoencephalopathy and multiple lacunes. On the basis of these clinical deficits and neuroimaging features, we are unable to delineate the common, or minimal, lesioned network required for this symptomatology to occur, especially in the absence of a series of patients, and with such a difference in both the location and causes of the lesions. However, bilateral frontosubcortical dysfunction was pre-eminent in the clinical picture in both patients, even though more diffuse brain pathology was seen in one, and it might be speculated that dysfunction of the bilateral orbitofrontal and frontomesial motor frontosubcortical circuits might be involved in the aetiology of this peculiar speech disorder.

Key words Echoing · Speech · Fronto-subcortical circuit · Environment dependency
Introduction

Echolalia is generally found as part of the clinical picture of transcortical aphasia and may be due to a lesion in the posteromedian frontal lobe including the supplementary motor area (SMA) [1, 2]. In the general concept of echolalia, sentences, or fragments of sentences, are echoed, and it is hardly, if at all, possible to evaluate verbal understanding. Associated signs are forced grasping and other compulsory phenomena, like utilization behaviour, echopraxia, and frontal release reflexes. We report two patients with different lesions and clinical presentations, who employed an echoing technique in dialogue with the examiner. The patients were examined by experienced neuropsychologists, who mentioned "perseverations" and "difficulty in understanding" in their description of both patients' speech. Echoing, as a concept, has been approached in studies of speech in autistic children [3-7], but has never been reported per se in adults with aphasia, probably because insufficient attention is paid to this form of speech, which may superficially be mistaken as a problem of understanding, perseveration or echolalia.

Case reports

Patient 1 was a 62-year-old right-handed secretary, with the psychological profile of an obsessionally efficient and polite person, with broad general knowledge, who was referred to a doctor because of recent changes in her personality and work efficiency.

At the beginning of April 1992, her coworkers noticed that she was sometimes inefficient at work, making errors, missing out words and having difficulty in understanding orders. She was unaware of any change in either her personality or behaviour, but complained of headaches and forgetfulness.

On neurological examination, the cranial nerves and fundi were normal, with no facial asymmetry, oorolinguofacial apraxia and no abnormal cranial reflexes. The rest of the neurological examination was normal, except for an indifferent Babinski sign on the left, and intermittent extension on the right.

A neuropsychological examination was performed using a standard battery of tests, and the patient's scores compared with those for our own population matched for age, gender, level of education and first language [8]. The patient was alert, oriented and with normal attention scores, as assessed by a normal digit span. Spontaneous expression was extremely poor, and she would not talk unless prompted. When speaking, she experienced great difficulty in finding words, but was otherwise fluent; a severe naming impairment was found on a shortened translation of the Boston Naming test [8]. There was no agrammatism, no paraphasias, normal prosodia, good articulation, and no jargonophasia, but she stuttered at times. She could understand three-step orders and positive, negative and passive sentences without difficulty. Repetition was well preserved. She could read fluently; although her recall of the text was poor, there was no confabulation. Her spelling was unimpaired in a forwards direction but severely impaired in a backwards direction. Her writing was normal and she understood words, logatomes, and sentences without difficulty. She had no constructional or ideomotor apraxia of the right hand, but some degree of apraxia of the left hand on verbal command, suggestive of callosal dysconnection. Gnosias and visuoperceptive skills (Poppelreuter's embedded figures, mule map, and recognition of famous faces) were intact. The Rey Auditory Verbal learning test was impaired for recognition, with delayed evocation with scores in the lower range of the norm. She had massive frontal signs, such as bilateral grasp, utilization behaviour of any object presented to her (a purse, a wallet, a telephone, a pen, a glass...), echomimia, echopraxia, and massive failure of the Stroop test, deficient inhibition of inappropriate responses on a go-no go task, failure to sustain Luria's alternating tasks for both graphic and hand gestures, and decreased verbal fluency, both in the "M" and "animal" categories.

When asked about her symptoms, the examiner (J.G.) was surprised to receive echoing replies to his questions. For example, the dialogue would go as follows (it should be explained that translation into English places an apparent contradiction between the syntax of the question and the reinforcing "do you" or "don't you", which does not exist in French):

"You don't have any trouble speaking, do you?"
"No, no."
"You don't have trouble finding words, do you?"
"No, no. I can find them easily...sometimes, at night, Mr er... you know, sometimes at night, it gets mixed up..."
"Have you noticed any change in your speech?" (purposeful negative intonation)
"No, no."
"But you have noticed that your speech has changed, haven't you?"
"Yes, yes, oh... yes."
"You do have headaches, don't you?"
"Yes, yes, headaches, very bad headaches... yes, yes."
"But you just told me you don't have any headaches".
"No, no... no headaches".
"You do know what headaches mean, don't you?"
"Yes, yes headaches, pain in the head, yes, yes... I have very, very bad headaches since... er, since..."
"Do you know what I mean when I say: Kto la gavaril (positive intonation)?"
"Yes, kagayavari, yes yes... yes. I understand very well what it means, yes, yes".
"Do you know what it means (negative intonation)?"
"No, no. I've no idea what it means, but I can repeat it".

The examiner then turned to another physician and they discussed her case, while she was sitting between them. One of the physician says: "We were impressed by the peculiar type of aphasia...". She says "Yes, yes yes exactly, yes, yes".

"... and we thought she had some kind of transcortical, predominantly motor aphasia..."
"Yes, yes, exactly, that's it...".
"...with no phonemic or semantic paraphasia..."
"No, no, absolutely not..."
"...the only abnormal physical signs were bilateral grasping, echopraxia, and a right Babinski..."
"Yes, yes, that's right... exactly...".

CT showed a multilobate bilateral frontal expanding process in the right paramedian subcortical frontal region and caudate nucleus, involving the anterior part of the corpus callosum, the subcortical white matter of the left frontal lobe and the caudate nucleus on the right side, which was diagnosed as glioblastoma after stereotactic biopsy.

Patient 2 was a 71-year-old right-handed, retired highly qualified worker with obsessional politeness and much self-control, who was referred to our movement disorder unit because of intellectual deterioration and trouble with balance and gait. The patient was