

Anomia in major depressive state

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Abstract

Anomia, or word finding difficulty, is a frequent clinical symptom of the depressive state. This study investigates naming and lexicalization processes (or word production processes) in 11 depressive patients (major depressive state), through a picture naming task of 53 images corresponding to low frequency words. Depressives showed significantly more anomia and made more naming errors (semantically related substitution words) than control subjects. Tip-of-the-tongue (TOT) states, which correspond to an impairment at a later stage of phonological encoding with partial activation of phonological shape, remained rare in depressives despite the increase of lexicalization difficulties observed. Anomia observed in depressives could thus be related to an impairment at the early stage of lexicalization or word production processes (pre-phonological item selection and access, or storage of the semantic lexical item in Working Memory for further phonological encoding), without lexical–semantic disorganization. We discuss the relationship between such an elementary speech production disorder and cognitive impairments demonstrated in the depressive state (deficit of effortful and attentional processes, impairment in activation or initiation of cognitive processes and responses). © 1998 Elsevier Science Ireland Ltd.

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1. Introduction

A number of recent studies have demonstrated impairments in memory, attention, language and information encoding in depression (Willner, 1984; Austin et al., 1992). This study deals with lexical access impairment, or anomia, in subjects suffering from major depressive state. Anomia, or word finding difficulty, is a frequent complaint in depression, but is often confused with a memory impairment.

On the other hand, lexical access difficulty, or anomia, is one of the most frequent speech production disorders, either in neurological pathology or functional impairments of normal subjects (Geschwind, 1967). Anomia is a process in which a speaker is unable to produce specifically sought words either during normal conversation or during naming tasks. More rarely it is an isolated symptom in aphasia (pure anomia or 'amnesic aphasia', Benson, 1979); however, it is more often encountered in patients with various forms of aphasia due to different lesions and exhibiting other language difficulties. Isolated anomia is also one of the symptoms of Alzheimer dementia that occurs the earliest and that is the most frequently observed. Normal people, however, also experience anomia with its characteristic, peculiar feeling of having a word on 'the tip of the tongue' or TOT state (Rochford and Williams, 1965; Brown and McNeill, 1966; Rubin, 1975; Jones and Langford, 1987; Freedman and Landauer, 1987; Levelt, 1993). This state was defined by Brown and McNeill (1966), who showed that normal subjects could demonstrate anomia when presented with the definitions of rare words in a word finding test. In TOT state subjects fail to generate target words, but nevertheless 'know' the word they are trying to find and show some knowledge of its first or last letter, initial sound, the word's length or number of syllables, its gender. They often produce sound-related errors, phonological paraphasia or 'substitution words' which share formal characteristics with the missing word.

These different lexicalization impairments in aphasia or normal subjects do not result from a single mechanism, such as a 'mnestic' deficit (Kay and Ellis, 1987; Levelt, 1993). Different forms of

anomia have been identified which result from impairments at different stages of a sequential word production process (Kempen and Huijbers, 1983; Seidenberg and McClelland, 1989; Levelt et al., 1991; Levelt, 1993). After the perceptual stage of object identification (categorization), word production (or 'lexicalization') can be decomposed into at least two successive stages of lexical retrieval (Levelt, 1993). The first stage involves semantic activation of a set of lexical candidates in the long-term memory and then the selection of an appropriate 'abstract lexical representation' or semantic pre-phonological item (L1 item or 'Lemma', Kempen and Huijbers, 1983; Levelt, 1993) which consists of the word's conceptual specifications. These procedures deposit their results in the Working Memory for further processing. The second stage involves phonological encoding of the selected L1 item and access to the morphological and metrical composition of the word, followed by the word's segmental composition and finally its phonetic or articulatory plan or program, the 'phonological shape' (L2 item), which is eventually completed by the real articulation of the word. Phonological encoding involves working memory. These successive stages have also been defined as positional and functional levels of retrieval, respectively (Garret, 1982).

Dysfunctions at either of these two levels of retrieval have consequences which can be distinguished by the type of error made by subjects in the 'substitution words' or paraphasia produced (Fromkin, 1973; Butterworth, 1981; Garret, 1982; Howard and Orchard-Lisle, 1984). In some cases of aphasia or neurological anomia, errors or substitute words are semantically related to the target word (Rinnert and Whitaker, 1973; Howard and Orchard-Lisle, 1984). This impairment is sometimes associated with low or severe comprehension disorders (Kay and Ellis, 1987). In the most severe cases of aphasia (with comprehension disorders), anomia is qualitatively similar to that of demented patients (Gainotti et al., 1988). Semantic errors are less related to the target words and reveal a disorganisation of the underlying semantic lexicon in the long-term memory. This suggests an impairment of the first semantic stage of retrieval, accessing and selecting the abstract

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