

PSYCHOSIS OR WERNICKE'S APHASIA, AND RESPONSE OF SPEECH THERAPY IN WERNICKE'S APHASIA: A CASE REPORT

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Received on : 07-11-2019

Accepted on : 28-12-2019

ABSTRACT

This case report describes a lady who developed sudden onset of speech disturbances mimicking thought disorders of primary psychotic disorder after 9 month of apparently improved right sided hemiplegia following an event of cerebro-vascular accident about one year back with no particular cause evident on routine investigations. A 63-year-old woman presented with chief complaints of irrelevant answers, at times incomprehensible speech and talking nonsense. Presently problems created the diagnostic dilemma between primary psychotic disorder predominantly with formal thought disorder and Wernicke's aphasia, in the absence of any apparent underlying neurological causes. The authors discuss the differentiating features for making correct diagnosis in accord with the ICD-10, Classification of Mental and Behavioral Disorders, Clinical descriptions and diagnostic guidelines, World Health Organization (ICD-10) criteria, and a behavioral technique as the possible treatment option with beneficial outcome for Wernicke's aphasia, which comprised of audio-visual stimulus and reviewed the importance of considering this diagnosis in the setting of neuropsychiatric symptoms in the elderly and reported on a 63-year-old female with Wernicke aphasia mimicking formal thought disorder of psychosis.

KEYWORDS: Aphasia, Late onset Psychosis, Stroke.

INTRODUCTION

Aphasia - acquired difficulty with language – is a not uncommon and often extremely severe sequel of stroke or other brain lesion (1). Though data regarding prevalence is not available from India, the number of people with aphasia in the United States, primarily as a consequence of stroke and traumatic brain injury, is estimated at about 1 million (2). There are a number of different forms of aphasia. In 1861, Paul Broca was the first to give a definitive description of a type of aphasia – now known as expressive aphasia - complete with anatomical localization (3). In 1874, Carl Wernicke described a different kind of aphasia due to damage of the left posterior temporal cortex (4). In this remarkable description, Wernicke cataloged the cardinal signs of a form of aphasia now known as receptive aphasia: (i) Patients have poor to no understanding of language in any modality – spoken or written. (ii) Patients have no trouble producing speech but it is often completely lacking in meaning and includes all sorts of errors such as verbal paraphasias (e.g., "knife" for "fork"), phonemic paraphasias ("bife" for "knife") or neologisms (new words, such as "bort" for "fork"). (iii) Curiously, these patients are oblivious and unperturbed by their problems, and often seem not

to notice that others cannot understand their speech. Aphasia does not include (a) developmental disorders of language, often called dysphasia in the United States; (b) purely motor speech disorders, limited to articulation of speech via the oral-motor apparatus, referred to as stuttering, dysarthria, and apraxia of speech; or (c) disorders of language that are secondary to primary thought disorders, such as schizophrenia.

CASE REPORT

A female patient aged 63 year, nonalcoholic, non-obese housewife was brought by her attendants for psychiatric consultation in department of geriatric mental health, Lucknow, India with chief complaints of irrelevant answers and at times, incomprehensible speech. Duration of illness was about 1 month with sudden onset without any apparent precipitating factors. There was past history of an episode of cerebro-vascular accident about one year back resulting in right sided hemiparesis which improved within 3 month of time with complete functional recovery by active treatment taken at that time from neurologist. The patient was apparently asymptomatic before the onset of current complaints and was taking no active prophylactic treatments for any indications since last 9 months.

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As per informant the current problems of speech started suddenly without any prior significant physical problems. The patient started speaking in a manner that would be incomprehensible to the family members and it would appear that patients would not pay attention to the family members and would not listen to them carefully. The speech of patient was fluent but would not make any sense. The patient would also use words which would be new (neologisms) to the family members. She would not follow instruction given to her in day to day routine activities.

Gradually with passage of time, behavioral changes were noticed. The patient would easily get angry and irritable, repeating the same irrelevant answers and would be abusive at times. There was no history of impairment in vegetative functions of sleep, appetite, self care and personnel hygiene. There were no any apparent neurological abnormalities in the form of weakness in limbs, facial asymmetry, gait disturbances, and problems with swallowing etc.

The presence of significant problems of irrelevant talking and incomprehensible speech guided the family members and primary physician at first contact to think in line of psychiatric disorder making referral to our centre.

During short evaluation in OPD, a provisional diagnosis in favour of psychotic disorder was made as there were no any apparent neurological findings. Hence the patient was hospitalized for diagnostic purpose. On detailed evaluation and observation of ward behavior it was found that patient's meaningless fluent speech and behavioral abnormalities was due to inability of the patient to understand the instruction/stimulus given to her. Also, the psychological reaction in the patient could also be due to patient's feeling that others are not able to understand her. On further evaluation, no psychological abnormality in thinking pattern was noticeable except irrelevant answers, new words formation (as saying PALM to AAM {name of mango in Hindi} etc.) and incoherent speech at times. Furthermore, no signs or symptoms suggestive of psychotic symptoms in the form of delusions, hallucinations or disorganized behavior were noticed or elicited. Patient's vitals were within normal limit on daily monitoring. Baseline routine blood investigation, serum lipid profile and EEG were within normal range. Radiological investigations revealed old infarct healed lesion in left tempo-parietal region, not contributing to current scenario. No sign of recent stroke/hemorrhage was detected. Audiogram for hearing impairment was also within normal limit, concluding no hearing impairment. There was no history of diabetes mellitus, hypertension, tuberculosis, deep vein thrombosis, use

of oral contraceptives in past or seizures disorder. Neurological examination was also within normal limits. Routine clinical assessment and investigation had revealed no risk factors for stroke except history of previous stroke. However, the workup did not include thrombophilia screen or contrast echocardiogram.

In the absence of psychopathological criteria's as per ICD-I0 suggestive of psychotic disorders (F:20-29) except irrelevant and incoherent speech, and with the help of references sought from department of neurology and speech therapist, a diagnosis of Wernicke aphasia was made ruling out any psychiatric disorder at present. With the help of combined efforts and references sought from department of cardiology and neurology, the main conclusion was that the present complaints would have been due to micro-infarct in brain, which is often undetected on CT scans and hence the chief consideration was to prevent further episodes of micro-strokes. The patient was prescribed Tab Aspirin 75 mg at bedtime with the advice of regular follow.

The patient was given sessions of speech therapy, one hour per day for 8 weeks. During each session, therapist would show common bedside objects and name that object loudly while indicating that particular object with finger many times and then showing the same object to patient again and again until she would also name that particular object. As the patient was illiterate, hence this technique was applied to her routine task activities too. It involved audio visual stimulus together. Family members asked to involve this technique during day to day conversation with patient in polite and sympathetic manner. During the period of one to two weeks, significant improvement was noticed when patient started naming objects and family members correctly. Over period of further six week, speech therapy was continued and patient was made to learn and communicate by sign language combined with verbal response over the time there was good response in communication skills of patient and decrease in the burden over family members as patient started communicating by using signs combined with short verbal sentences for her day to day requirement. There was also decrease in episodes of anger and irritability.

DISCUSSION

Patients with Wernicke's or expressive aphasia are able to produce fluent speech, however, this speech may be complete gibberish sounds and totally incomprehensible, or even when comprehensible to a degree is often laced with severe errors and abnormalities such as verbal and phonemic paraphasias and neologisms(new words). Furthermore, patients with Wernicke's aphasia have poor understanding of speech or language (5). The

presence of speech abnormalities including neologism of Wernicke's aphasia makes it important to differentiate from primary psychotic disorder with predominant formal thought disorders especially in older population as seen in our case. The elderly population is more commonly affected by cerebrovascular accidents, whereas aphasia is common association (in about 1/3rd of cases) with stroke (6). Also many cases of schizophrenia show associative loosening (7), mimicking incomprehensible and nonsense talking similar to Wernicke's aphasia. As per diagnostics criteria in psychiatry, the ICD-10, a set of symptoms is required for making any psychiatric disorder, so with the late onset primary psychotic disorder like schizophrenia. Only the presence of incomprehensible and meaningless speech as in this above mentioned case, are in the absence of other psychiatric symptoms like delusions, hallucinations, perplexity, inappropriate/blunted affect or disorganization/catatonia of behavior could not be the basis of psychotic disorder. To the best of authors' knowledge, no literature/case reports are available differentiating speech abnormality of Wernicke's aphasia from that of psychotic disorders.

As various literatures show that there are no proven rehabilitation methods and speech therapy for Wernicke's aphasia (1, 8-10). The patient was rehabilitated by therapy focusing on using non-verbal communication which consisted simultaneous use of audio and visual stimulus with consequent improvement. Thus a patient with Wernicke's aphasia should be placed in real or simulated situations as it is important to them to learn non-verbal means to communicate successfully.

CONCLUSION

Silent brain infarcts are common in elderly without marked neurological deficits. These patients may present with languages (Aphasias) abnormality mimicking Primary Psychotic disorders in the absence

of neurological deficits. Hence, a differential diagnosis of aphasia due to organic causes should be considered as differential diagnosis in elderly patients presenting with psychotic symptoms predominantly with language/thought disorders in psychiatric set-ups.

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