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NEUROGENIC LANGUAGE DISORDERS: A COMPREHENSIVE REVIEW OF APHASIA

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Annotation: This article explores aphasia, a neurogenic language disorder caused by damage to cortical speech centers. It provides a detailed classification of the main types of aphasia, outlines their clinical manifestations, and identifies key etiological factors, including cerebrovascular accidents, traumatic brain injuries, neoplasms, and infectious diseases. Diagnostic procedures such as neuroimaging and electrophysiological studies are highlighted, along with treatment strategies involving pharmacotherapy, physiotherapy, and speech–language rehabilitation. The paper emphasizes the importance of psychological support and a comprehensive, interdisciplinary approach to patient recovery.

Key words: aphasia, speech disorder, language impairment, diagnosis, clinical symptoms, treatment, rehabilitation.

Aphasia is an acquired language disorder resulting from damage to the cortical speech centers of the brain. It leads to partial or complete impairment of expressive and/or receptive language functions. Patients may lose the ability to produce coherent speech, comprehend spoken language, read, or write. Unlike congenital language disorders such as alalia, aphasia affects individuals who had previously developed normal language skills, typically manifesting after the age of three.

Aphasia is a complex neurological condition that often co-occurs with other cognitive, sensory, and motor impairments. Consequently, its study and management require an integrated medical, linguistic, and psychological perspective.

The classification of aphasia is generally based on the location of the lesion and the specific nature of linguistic dysfunction. The principal clinical types include:

1. Efferent Motor Aphasia (Broca's Aphasia):

   Results from damage to Broca's area. Characterized by articulatory apraxia, with difficulty producing sequential speech sounds and syllables. Patients often demonstrate non-fluent, effortful speech.
2. Afferent Motor Aphasia:

Associated with impaired kinesthetic speech praxis. Patients struggle to articulate individual sounds correctly, as they cannot position articulatory organs (lips, tongue) adequately.

3. Acoustic–Mnestic Aphasia:

Caused by deficits in auditory-verbal memory. Patients cannot retain or process long utterances and often experience word-finding difficulties.

4. Semantic Aphasia:

Marked by difficulty understanding complex syntactic constructions and abstract lexical items. Patients often misinterpret the meaning of phrases.

5. Dynamic Aphasia:

Related to frontal lobe dysfunction. Patients exhibit reduced spontaneous speech and rely heavily on isolated words, particularly nouns, instead of constructing full sentences.

Mixed forms are common, and in cases of extensive cortical damage, a global aphasia may occur, characterized by severe impairments in both expressive and receptive language modalities.

Symptoms of aphasia vary according to lesion location and severity. Common clinical features include:

1. Fragmented or incoherent speech production;
2. Impaired reading comprehension (alexia);
3. Writing difficulties (agraphia);
4. Phonemic paraphasias (sound substitutions or rearrangements);
5. Perseverations (uncontrolled repetition of words/phrases);
6. Anomia (difficulty recalling familiar object names);
7. Decline in auditory-verbal and visual memory;
8. Difficulties with learning and higher-order linguistic processing.

Aphasia is typically secondary to structural or functional brain pathology. The most frequent causes include:

- Cerebrovascular accidents (ischemic or hemorrhagic stroke);
- Traumatic brain injuries;
- Brain tumors and space-occupying lesions;
- Neurodegenerative conditions (e.g., Alzheimer's disease);
- Infectious processes (encephalitis, meningoencephalitis);
- Cerebral aneurysm rupture or thromboembolism;
- Epileptic syndromes;
- Toxic and metabolic encephalopathies;
- Post-surgical complications of neurosurgical interventions;
- Severe psychological stress (psychogenic aphasia).

Accurate diagnosis requires both neurological and neuropsychological evaluation. Commonly employed methods include:

- Neuroimaging techniques: Magnetic Resonance Imaging (MRI), Computed Tomography (CT), Angiography, Duplex scanning of cerebral vessels;
- Electrophysiological studies: Electroencephalography (EEG);
- Laboratory analysis: Cerebrospinal fluid (CSF) examination;
- Neurocognitive assessment: Standardized aphasia batteries and linguistic tests to assess speech, comprehension, and memory deficits.

These procedures are crucial not only for identifying aphasia but also for determining its etiology, severity, and potential recovery trajectory.

The inability to communicate effectively imposes a heavy psychological burden on patients, often leading to frustration, depression, and social withdrawal. Support from relatives and caregivers is therefore essential. Clinical experts recommend the following strategies:

- Use of simple, clear, and slow speech;
- Supplementing verbal communication with gestures, facial expressions, and visual aids;
- Avoiding overcorrection of errors to minimize patient anxiety;
- Ensuring strict adherence to prescribed therapy (medication, speech therapy, and home exercises).

A supportive and empathetic environment significantly enhances rehabilitation outcomes.

Treatment of aphasia is multidisciplinary and begins with addressing the primary cause (e.g., managing stroke, excising tumors, or treating infections). Therapeutic interventions include:

- Pharmacotherapy: Nootropic agents, neuroprotectors, and muscle relaxants;
- Physiotherapy and Rehabilitation: Massage, kinesitherapy, mechanotherapy, and acupuncture;
- Speech–Language Therapy: Systematic sessions aimed at reactivating language networks, retraining articulation, and restoring vocabulary;
- Psychological Support: Counseling and psychotherapy to alleviate emotional distress and improve social reintegration.

The degree of recovery depends on the size and location of the cerebral lesion, the underlying etiology, patient age, and compliance with treatment protocols. Although complete recovery is not always achievable, significant improvements in speech and communication are possible through consistent therapy and structured rehabilitation.

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