Aphasia

Aphasia describes a series of conditions that cause problems with communication. These can affect how people understand language, how people communicate, or both. There are several different types of aphasia. Aphasia is caused by damage to the parts of the brain that process language and communication. The most common cause in the UK is a stroke, but other problems like brain tumours and dementia can lead to it as well.

What is aphasia?

"Aphasia" literally means "loss of language". The medical term aphasia describes a series of conditions that affect the way people use language. These conditions can lead to problems in understanding spoken or written language, problems in producing spoken or written language, or both.

Some people use the term "dysphasia", which means "impaired language". This is more accurate - most people with these conditions still have some ability to speak and understand, without complete loss of language. However, "dysphasia" can easily be confused with the term "dysphagia" (swallowing problems), so some prefer to use "aphasia" to avoid any mix-up.

Aphasia is different from dysarthria (problems with pronunciation of words - eg, slurred speech) and speech apraxia (difficulty converting 'speech plans' in the brain into spoken speech), although some people have aphasia alongside other problems. For example, someone who has had a stroke might have problems finding words when speaking, but also have slurred speech when talking.

There are different types of aphasia, which lead to different patterns of symptoms.

Symptoms of aphasia

Aphasia causes problems in understanding language, producing language, or both. The exact symptoms depend on which parts of the brain are affected, and what type of aphasia is present.

Symptoms of aphasia include the following (see "Types of aphasia" below for more):

- Halting, effortful speech.
- Difficulty finding the right word when speaking.
- Substituting words with other words with the wrong meaning.
- Difficulty naming objects.
- Being unable to write a sentence.
- Being unable to understand what other people are saying.
- Being unable to understand the meaning of written language.
- Speaking without any meaning - eg, speaking 'gibberish'.
- Using made-up words ('neologisms').

Types of aphasia

There are different types of aphasia, with different patterns of symptoms. They are caused by damage to different parts of the brain. Understanding how brain damage leads to the different types of aphasia has given us a lot of information about how the brain works to process and produce language.

Types of aphasia include:

Expressive aphasia (Broca aphasia)

Expressive or Broca aphasia is caused by damage to a part of the brain called Broca's area. It's usually in the left side of the brain. Broca's area controls the production of language.

People with an expressive aphasia find it difficult to speak or to write. Their speech tends to be slow and takes a great deal of effort. For example, a conversation with someone with expressive aphasia might go like:

Doctor: How did you get to the hospital today?

Patient: I... can... ah... take... ah... bus.

People with expressive aphasia are often aware of their difficulty and can find it very frustrating. They know what they want to say, but find it very hard to say it.

In expressive aphasia, people usually have good understanding of the meaning of language, so they can understand what others are saying. Their speech or writing has the correct meaning, even if it's very difficult for them to produce. However, this can vary from person to person, and some people with expressive aphasias do have some difficulty with comprehension of language.

Broca's area is very close to the parts of the brain that control the movement of the body (the left side of the brain controls the right side of the body, and vice versa). People with damage to Broca's area (eg, after a stroke) often have damage to the movement control areas as well. If this happens, they might have weakness of the face, arm, and leg.

Receptive aphasia (Wernicke aphasia)

Receptive or Wernicke aphasia is caused by damage to an area of the brain called Wernicke's area, which is also usually in the left side of the brain. Wernicke's area controls the understanding of the meaning of language.

Receptive aphasia is also called a 'fluent' aphasia. People with receptive aphasia can't understand the meaning of others' spoken or written language. They can speak fluently, but their speech is meaningless. It might also contain made-up words ('neologisms'). A conversation with someone with receptive aphasia might go like:

Doctor: How are you feeling today?

Patient: I went to the car then bekan the grass was laughing and the green yellow sad is moving.

Conductive aphasia

Conductive aphasia is caused by damage to the connection between Wernicke's area and Broca's area. People with conductive aphasia can understand language and speak fluently (though sometimes make pronunciation errors). Their main difficulty is with repetition, meaning they can't repeat words or phrases if asked to. This might go like:

Doctor: How are you?

Patient: I'm feeling fine.

Doctor: Please repeat after me: "Apple".

Patient: Baggle. No. Gabble.

Transcortical sensory aphasia

This is a rare form of aphasia. A transcortical sensory aphasia is caused by damage around Wernicke's area, but not directly affecting it.

Transcortical sensory aphasias produce similar difficulties to receptive (Wernicke) aphasia.

People with transcortical sensory aphasia have difficulty understanding other people, and can speak fluently, but meaninglessly. However, they are able to repeat things they hear. For example:

Doctor: Would you like to go outside?

Patient: Go outside, outside, outside.

Transcortical motor aphasia

Transcortical motor aphasias are caused by damage around Broca's area, but without directly affecting it.

Transcortical motor aphasias produce similar difficulties to expressive (Broca) aphasia. In transcortical motor aphasia, people can understand language but find it difficult to produce words when speaking or writing. However, they are much better at repeating words or phrases. For example:

Doctor: What would you like to do today?

Patient: I... go... television.

Doctor: Please repeat after me: I would like to watch television.

Patient: I would like to watch television.

Anomic aphasia (nominal aphasia)

Anomic aphasia is usually milder than other aphasias. People with anomic or nominal aphasia have difficulty finding the right word when speaking, or difficulty naming objects. They are otherwise able to speak fluently and understand language.

Global aphasia

This is the most severe form of aphasia. People with global aphasia have a lot of difficulties with understanding and producing language. They may be able to speak only a few words. They are unable to read or write.

What causes aphasia?

Anything that causes damage to the areas of the brain that control language processing can cause aphasia. Common causes include:

- A stroke.
- A brain tumour.
- Dementia.
- A major head injury causing brain damage.

How common is aphasia?

Aphasia is common. About one third of people who have a stroke develop aphasia. One estimate is that there are around 350,000 people in the UK with aphasia. In the USA, the National Institute on Deafness and Other Communication Disorders estimates that around 1 million people there have aphasia.

Aphasia diagnosis

Aphasia is diagnosed by testing someone's speech, writing, and understanding of language. It's usually diagnosed by a speech and language therapist or a doctor.

Other tests will usually be done to look for the cause of an aphasia. This usually includes a brain scan (CT scan or MRI scan).

Aphasia treatment

Aphasia is treated by speech and language therapists. Speech and language therapists perform detailed assessments for a person with aphasia to work out which areas they are struggling with, allowing them to suggest a personalised treatment plan.

Speech and language therapists use lots of different techniques to support recovery. For example, they might work on:

- Exercises to help improve the memory for words.
- Exercises to help improve the ability to put sentences together.
- Exercises to improve reading and writing.
- Finding alternative ways to communicate.

Speech and language therapy can be delivered individually, in groups, or with computers or an app.

Other treatment might be offered depending on the cause of aphasia; for example, treatment for a stroke.

The outlook for aphasia depends on the type of aphasia, how severe it is, and what's caused it.

Most people with aphasia from a stroke improve, at least partially, in the first few months after the stroke. Conditions like dementia, though, get worse over time, so aphasia due to dementia is unlikely to improve and may get worse.

There are other treatments that are being researched for aphasia, such as:

- Transcranial direct current stimulation (TDCS) and transcranial magnetic stimulation (TMS), which are used to activate parts of the brain that control language.
- Medications, which might be able to boost healing and recovery of the brain.

There isn't enough evidence that these work for aphasia, though, and so they're only used in research studies at the moment.

Complications of aphasia

Aphasia can significantly affect someone's ability to communicate. This may mean that they are unable to express their wants and needs. Many people are aware of their difficulties and this can be intensely frustrating and upsetting. People with aphasia can feel angry, or isolated, and they may develop depression.

There might also be other problems, depending on the cause of the aphasia. For example, a large stroke might cause aphasia as well as other problems, like weakness of the face, arm, and leg.

Further reading

- What is aphasia?; Stroke Association
- Aphasia; SLT UK
- Say Aphasia

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