Broca aphasia

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DESCRIPTION

An 80-year-old Japanese woman presented with sudden onset of speech disturbance and confusion. She was riding a bicycle when she suddenly felt unwell and subsequently noticed she could not find words to express her thoughts. A pedestrian found her sitting on the ground, at a loss for words and looking confused. She was brought to the emergency department for evaluation. On examination, she was alert, but looked very anxious, frustrated and confused. She was not oriented to time, place and person. She spoke hesitantly and non-fluently, she seemed not to be able to find words to respond (speaking and writing) to the physician's questions. She also showed impairment in repetition and comprehension to questions with complex syntax. The rest of the neurological examination was normal. Laboratory studies showed high cholesterol and elevated glycated haemoglobin of 8.2.

Diffusion-weighted MRI revealed acute infarction involving the Broca area (figure 1). MR angiography showed severe stenosis of the distal left middle cerebral artery (figure 2). The patient was diagnosed as pure motor aphasia (Broca aphasia). After conservative treatment with a speech therapist, she made an uneventful recovery.

Broca aphasia is characterised by severe impairment in expressing speech and writing.[1] Comprehension is sometimes affected. Broca aphasia stems from neurological damage to the Broca area. The differential diagnosis is broad, encompassing vascular, infectious, inflammatory or degenerative conditions (box 1). Also, some cases with limited symptoms, as seen in this case, can mislead clinicians to other diagnoses such as herpes encephalitis, Alzheimer's disease and conversion disorder.[2]

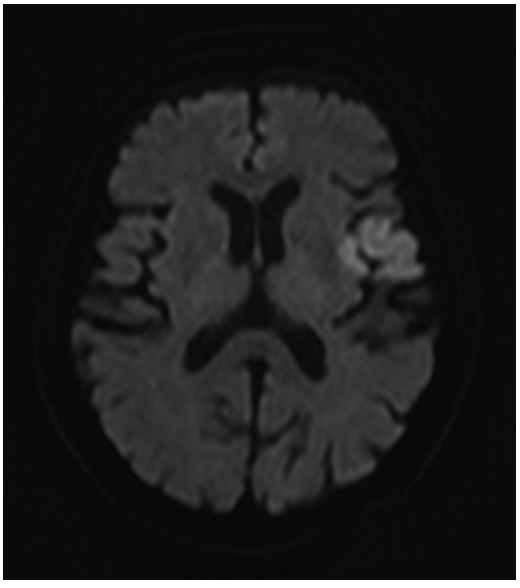

Figure 1 Diffusion-weighted MRI showing ischaemic findings involving the Broca area.

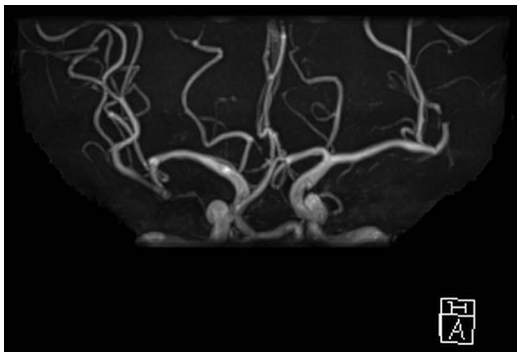

Figure 2 Three-dimensional MR angiography showing a signal loss (arrows) at the distal point of the left middle cerebral artery.

Box 1 Differential diagnosis of Broca aphasia

Ischaemic disease
- Cerebral infarction
- Transient ischaemic attack

Haemorrhage
- Intracerebral haemorrhage
- Traumatic injury
- Subdural haematoma
- Subarachnoid haemorrhage

Infection
- Herpes encephalitis
- West Nile encephalitis
- Bacterial infection/abscess
- Fungal abscess
- Prion disease
- Toxoplasmosis
- Lyme disease

Degeneration
- Alzheimer's disease
- Primary progressive aphasia
- Amyotrophic lateral sclerosis

Demyelination
- Multiple sclerosis
- Acute disseminated encephalomyelitis

Tumour
- Primary brain tumour
- Brain metastases

Others
- Sarcoidosis
- Migraine
- Seizure
- Conversion disorder
- Wernicke's encephalopathy

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Learning points

- Broca aphasia should be suspected when a patient has difficulty in repetition and naming, and if dysfluency or inaccuracy of expression of speech and writing are detected.
- The diagnosis is sometimes difficult because of the limited manifestation of symptoms.

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Competing interests None.

Patient consent Obtained.

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