

Broca aphasia

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Accepted 6 December 2014

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

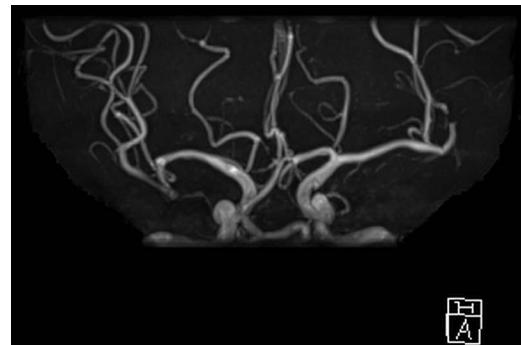


Figure 2 Three-dimensional MR angiography showing a signal loss (arrows) at the distal point of the left middle cerebral artery.

mislead clinicians to other diagnoses such as herpes encephalitis, Alzheimer's disease and conversion disorder.²

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

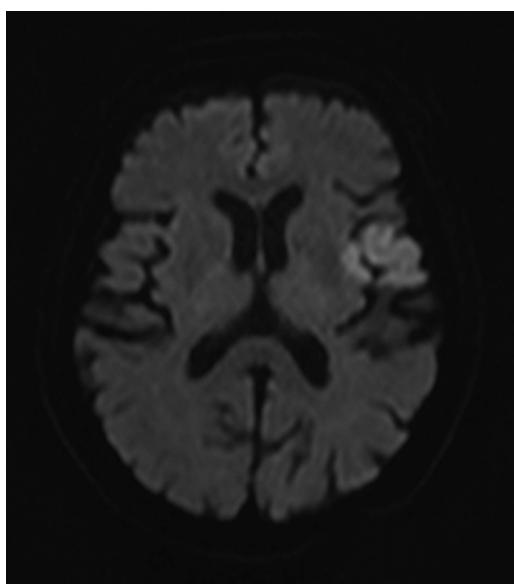


Figure 1 Diffusion-weighted MRI showing ischaemic findings involving the Broca area.



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To cite: Watari T, Shimizu T, Tokuda Y. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2014-208214

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.

Contributors TW wrote the manuscript. TS and YT revised the manuscript.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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