

Aphemia: A Rare Presentation of an Acute Infarct

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Objective

To describe a rare presentation of aphemia occurring after a left inferior frontal gyrus infarct involving cortical and subcortical regions.

Introduction

The term aphemia was initially coined by Dr. Paul Broca in 1861¹, and is also known as apraxia of speech, verbal apraxia, or phonetic disintegration syndrome². It is primarily a disorder of articulation, whereas aphasia is a disorder of language³. Aphemia is characterized by difficulty in the motor aspects of speech, with intact comprehension, grammar, and writing¹.

Case Report

Patient was a 43 year old female with a past medical history of Type 2 Diabetes Mellitus and hypertension who presented to the ER with one day of headache and inability to produce speech. Per family, she was normal upon awakening but then began to endorse headache, chest pain, and developed an acute inability to speak, though she was able to understand commands. She would point to her throat, but could not open her mouth, smile, or stick her tongue out on command. She also had difficulty eating.

Exam

Vital Signs: BP 175/106 mmHg, Pulse 110, Temp 99.8 °F, RR 18, SpO2 98%

Mental Exam: Awake, alert and oriented. Follows 2 step commands, writing intact. Unable to phonate

Cranial Nerves:

V - Diminished sensation on right V1 – V3.

VII - Right lower facial droop. Patient unable to smile or otherwise move oral muscles on command.

IX, X - Unable to visualize palate as patient cannot open mouth on command, unable to swallow on command.

XII - Unable to protrude tongue.

Strength: 5/5 throughout.

Gait: Normal.

Evaluation

- CT Angiogram head and neck: no vessel abnormalities.
- Cardiac ultrasound: normal ejection fraction, left atrium not fully visualized, no R->L interatrial shunt.
- EKG and telemetry: normal sinus rhythm.
- LDL 161, A1c: 5.9, RPR: Non reactive, ESR: 21.
- Basic CSF studies were unremarkable; CSF cryptococcus negative, culture negative, CSF VDRL non-reactive, HSV negative, AFB and fungal culture negative.
- Hypercoagulable labs:
 - Lupus anticoagulant panel negative
 - Anticardiolipin antibody negative
 - Protein C and S negative
 - Factor V Leiden and AT IIInegative
 - ANA, RA factor, and Anti SSA/B negative

Imaging

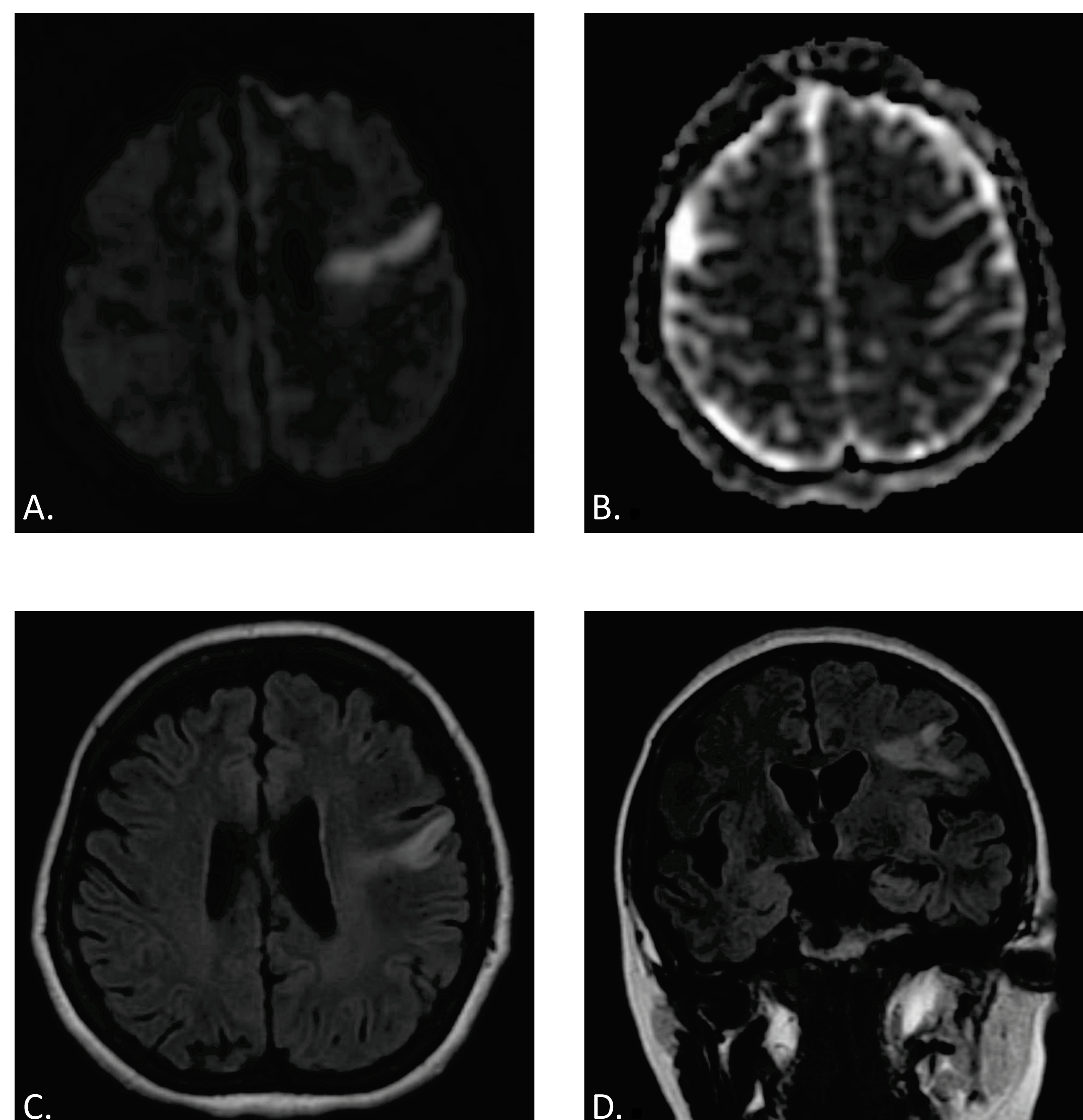


Figure. MRI brain: Axial DWI and ADC showing an acute cortical and subcortical vascular insult in the left inferior frontal gyrus (A-B). Axial and coronal T2 FLAIR weighted imaging (C-D).

Management

Patient was out of the window for IV tPA. She was started on Aspirin 81 mg daily and a statin. Patient quickly recovered her ability to eat, and with assistance from speech therapy, she was able to phonate and say simple words. NIHSS on discharge: 3 (R UMN facial droop and aphasia).

Conclusion

This case report demonstrates a patient who lost her ability to produce speech but was able to comprehend and write fluently. Her deficit did not fit a classic aphasia pattern but rather represented an inability to voluntarily control her oral muscles, resulting in a transient apraxia of the muscles of articulation, chewing, and deglutition. Initial differential included structural oropharyngeal and functional speech disorder but work-up revealed an ischemic infarct.

Few cases of acute aphemia due to stroke have been described and they typically present with a lesion in the dominant inferior frontal gyrus. It is thought that concurrent in patients with an aphasia, a concurrent aphemia is actually masked². In cases of sudden loss of ability to speak with preserved comprehension and written communication, aphemia due to ischemic stroke of the dominant inferior frontal gyrus should be considered on the differential especially when combined with an inability to manipulate the oral musculature at will.

References

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