



# Intermittent Dysarthria in the Face of Intracranial Bleeding

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## Introduction

This case describes a patient who presented to the emergency department with complaints of difficulty speaking that only occurred during times of extreme emotional stress. Despite an unremarkable neurological exam, CT demonstrated a left temporal lobe parenchymal hemorrhage with left temporoparietal subarachnoid hemorrhage. This case demonstrates an unusual presentation of a life threatening process.

## Emergency Department Presentation

A 63 y/o Caucasian female presented to the ED with complaints of difficulty speaking. She described her difficulty speaking as “difficulty finding the right words and slurred speech.” The patient stated these episodes had been occurring intermittently over the previous 3 days when she was under extreme emotional stress. Each episode lasted approximately one hour and spontaneously resolved without any residual deficit. These episodes were not accompanied by any other neurological complaints.

The patient’s history also supplied the physician with an acute versus chronic presentation, because she believed she had experienced a similar episode one year ago while under emotional stress. Her review of systems demonstrated a mild headache that was neither the worst headache of her life or sudden in onset.

**PMH:** hypertension, breast cancer

**PSH:** mastectomy

**Allergies:** no known drug allergies

**Medications:** Metoprolol, Anastrozole

**Social:** married, no tobacco abuse, no alcohol or substance abuse

**Vitals:** BP 178/88, HR 106, RR 17, Temp 37.0, 99% RA

### Physical Exam:

**General:** alert, no signs of distress

**HEENT:** PERRLA, supple neck, moist mucus membranes

**Pulmonary:** CTAB, no retractions

**Cardiovascular:** RRR

**GI:** Soft, normoactive bowel sounds, no tenderness

**Skin:** Warm and dry, no rashes

**Neuro:** CN II-XII intact, 5/5 strength, 2/4 DTR, negative drift, no Romberg, normal gait including tandem, negative cerebellar testing

## Differential Diagnosis

- partial seizures
- complex migraines
- conversion syndrome
- anxiety
- toxic ingestions
- head injury or trauma
- transient ischemic attack
- hemorrhagic stroke
- subarachnoid hemorrhage
- brain metastasis

## Emergency Department Course

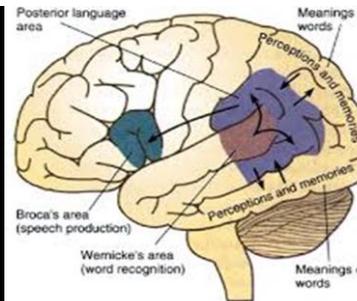
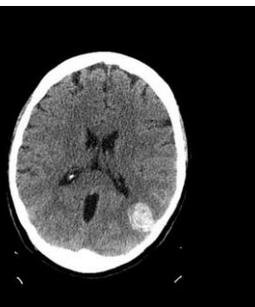
After the initial history and physical, the following diagnostic information was obtained:

**CBC, CMP, PT/INR, Troponin, CKMB:** Normal

**CXR:** no acute pathology

**EKG:** sinus tachycardia, rate 106

**CT Head:** rounded area of hemorrhagic hyperdensity in the left temporal lobe posteriorly. Measures 2.6x1.9cm. Adjacent left temporoparietal subarachnoid hemorrhage. No mass effect or midline shift.



At the time of evaluation neurosurgery was not available and the patient was transferred to a center with the capacity to provide definitive surgical care. The patient was ultimately discharged three days after admission with a positive outcome.

## Case Discussion

The novelty of this case rests in this patient’s unusual presentation of a life threatening disease process. Upon initial evaluation she had a non-focal neurological exam and was easily conversing with providers. This presentation coupled with her history of intermittent dysarthria that only occurred during emotional stress could have easily lead providers astray.

Despite finding an acute intracerebral bleed the source of her intermittent dysarthria remained unknown. This patient’s intracranial bleed was located over her left posterior temporal lobe with temporoparietal subarachnoid extension. A bleed in this location would be expected to produce receptive aphasia, not intermittent dysarthria.

A retrospective evaluation of this patient’s initial complaint finds that she was actually describing both aphasia and dysarthria. She specifically reported “difficulty finding the right words” and “slurred speech.” So was this patient’s atypical presentation actually directing providers to a second pathology?

The neurologists at the tertiary facility underwent the task of answering this question. Over three days the patient underwent extensive imaging and evaluation. There were no underlying lesions or vascular abnormalities that were found to be the source of her intracerebral hemorrhage.

It was concluded that in addition to her primary intracerebral hemorrhage, this patient was likely experiencing partial seizures that accounted her intermittent dysarthria.

## Conclusion

This patient’s benign presentation is particularly daunting given the mortality associated with primary intracerebral hemorrhage. The estimated 30 day mortality of primary ICH is between 35-52%, and this patient’s mortality risk was increased with the subarachnoid extension of her bleed.

This case resonates as a hallmark case because had her presentation not been given its due diligence our positive outcome could have easily been a sentinel event.

## References

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