# Tea, Toast, and Strokes

## Introduction

In the United States, there are just shy of 800,000 strokes reported per year by the CDC, and it is the 5th leading cause of death in this country.[1] Anemia leading to stroke is an uncommon but vital cause to be evaluated. A study of over 58,000 patients showed an odds ratio of ischemic stroke in patients who were diagnosed with anemia was 1.6, and on follow up with those who suffered a stroke, the anemic patients were more likely to have died with a hazards ratio of 1.5.[2] Prevalence of anemia in patients with ischemic stroke is cited to be between 15-30%, which is approximately the same prevalence of other comorbid conditions such as atrial fibrillation or diabetes.[3,4] No stroke risk calculator is yet to account for anemia in it's calculations. The purpose of this study is to highlight an interesting case of stroke which could be attributed to a patient's anemia resulting in an ICU admission culminating in a discharge to an acute rehabilitation facility. With the patient returning to the same hospital 2 months later for a viral illness unrelated to the stroke but demonstrating at least 2-month survival.

## Case

An 89+-year-old female with past medical history of hypertension, hypothyroidism, breast cancer s/p mastectomy, cerebrovascular accident with some left-sided deficits and diabetes mellitus presented with complaints of increased weakness with interest going to an assisted living facility. The patient became progressively weaker over the previous three days and was now having trouble getting out of a chair. The family noted that the patient had not been eating as well as before, hence the ALF request. On physical exam, the patient had minimal strength to the left upper and lower extremities with 4/5 strength on the right. She also had some flattening of the nasolabial fold on the left side. Upon further questioning, the severe weakness was new while the droop in the face was from a previous stroke. EMS transported the patient to a local hospital. Evaluation revealed an acute stroke in the watershed parts of the brain and anemia with a hemoglobin of 4.9. The patient was out of the treatment window for thrombolytic therapy. She received 2 units of Packed Red Blood Cells and was admitted to the ICU. An anemia work up, including iron studies and a fecal occult blood test, pointed to poor nutritional intake as the primary cause and the stroke was a subsequent insult. Following downgrade from the ICU, she was transferred to an acute rehab facility and has yet to follow up in the outpatient clinic.

## Images

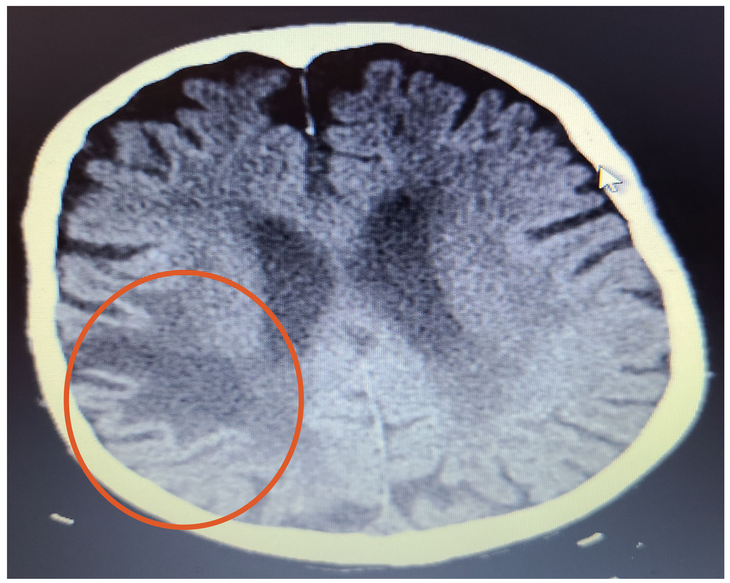

**Image 1:** CT scan of the brain demonstrating hypodense area in the rt parietal area likely encephalomalacia (Old stroke)

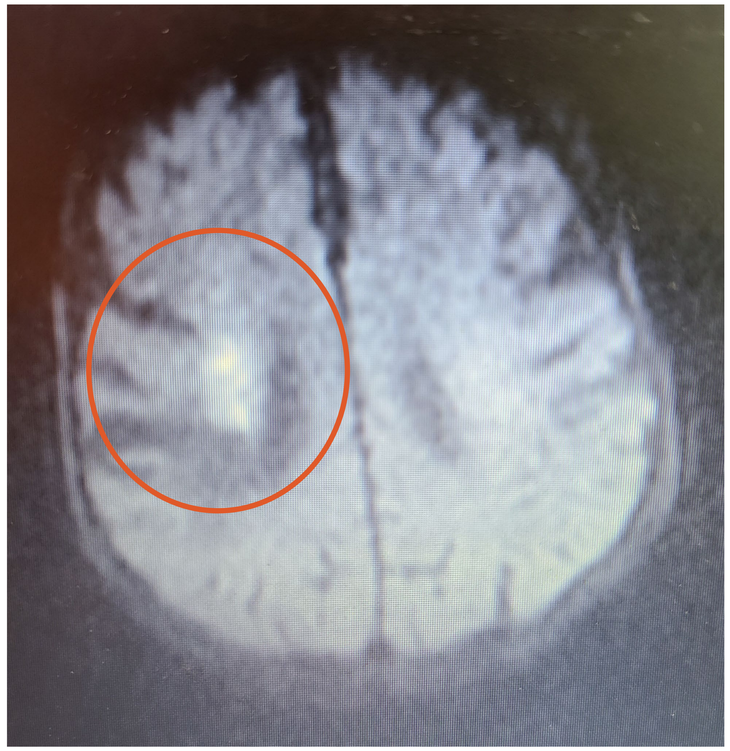

**Image 2:** MRI showing acute cerebrovascular nonhemorrhagic ischemia demonstrated involving the right centrum semiovale

## Discussion

There are valuable things that can be learned from this case. The importance of thorough physical examinations can never be understated. The patient was brought in by a family member and friend with concern for increasing weakness as the patient had been eating less and less. She was, however, found to be having a stroke; a second stroke affecting the left side again, nonetheless. The family did not realize the patient's weakness was due to a new stroke; instead, attributing it to the patient's previous stroke. It was important the patient be closely evaluated and, when asking the family, to be very specific about her capabilities in the past week. That is when the severity of the condition became apparent. Another vital part of this case is the importance of monitoring the nutritional status of the older patient population. This becomes even more critical if the patient lives alone, has some form of disability secondary to stroke or other, or if the patient is known to already have poor nutritional status. Meal supplements can serve as a useful tool in providing patients with adequate nutrition to prevent complications.

## Conclusion

A case such as this should remind practitioners that they should assess if a patient is safe in their living situation and not just in terms of direct physical harm. Primary care providers, particularly at annual well visits and at every other opportunity should assess if the patient's living arrangements are safe. Is the patient living alone and having trouble caring for themselves? Can the patient appropriately feed themselves? What does their support system look like? How are their ADL's? Elderly and disabled patients require careful screening to ensure that they have tools and resources necessary to thrive and to prevent catastrophic complications. The elderly is among our most vulnerable populations and protecting them from what they cannot protect themselves from is critical.

## References


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