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A CASE STUDY ON STROKE

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ABSTRACT

A stroke is a medical emergency characterized by the sudden loss of blood circulation to an area of the brain, resulting in a corresponding loss of neurologic function. Broadly divided into ischemic and hemorrhagic types, ischemic strokes account for approximately 87% of all cases. Diagnosis is primarily clinical, supported by rapid radiological imaging (CT or MRI). Early intervention with thrombolytic therapy or mechanical thrombectomy is critical to salvaging the penumbra (at-risk brain tissue). This case follows a 68-year-old male presenting with acute hemiparesis and speech impairment.

KEYWORDS: Stroke, Drug, Patient Counseling.

INTRODUCTION

Stroke remains a leading cause of long-term disability and the second leading cause of death worldwide. Ischemic stroke occurs when a blood vessel supplying the brain is obstructed by a clot (thrombus) or an embolus. Risk factors are categorized into non-modifiable (age, genetics) and modifiable (hypertension, diabetes, atrial fibrillation, and smoking). The management of stroke focuses on "Time is Brain," emphasizing rapid reperfusion to minimize neuronal death.

CASE PRESENTATION

PATIENT DESCRIPTION

A 68-year-old male was brought to the emergency department (ED) by his spouse on March 12, 2026. The patient experienced a sudden onset of weakness on the right side of his body and difficulty speaking (aphasia) approximately 90 minutes prior to arrival. He has a known medical history of Hypertension and Hyperlipidemia, for which he takes daily oral medications.

PHYSICAL EXAMINATION

- **Temperature**: 98.4°F
- **SPO_2**: 97% on room air
- **Pulse**: 88 bpm (irregularly irregular)
- **Blood Pressure**: 175/95 mmHg.
- **Neurological Exam**: The patient exhibited right-sided facial drooping, 1/5 motor strength in the right upper and lower extremities, and expressive aphasia.

INVESTIGATION

Laboratory parameters	Observed values	Normal Values
Blood Glucose	115 mg/dL	70-140 mg/dL
Platelet Count	210,000 cells/μL	150k – 450k cells/μL
PT/INR	1.1	0.8 – 1.2
LDL Cholestrol	160mg/dL	<100mg/dL

Non-Contrast CT Head: Ruled out intracranial hemorrhage; showed early signs of loss of gray-white matter differentiation in the left Middle Cerebral Artery (MCA) territory.

ECG: Revealed Atrial Fibrillation, a likely source of cardioembolic stroke.

DIAGNOSIS

Acute Ischemic Stroke in the Left MCA territory, likely secondary to Atrial Fibrillation.

TREATMENT

- **Alteplase (tPA)**: Administered intravenously at 0.9~mg/kg as the patient was within the 3-hour window and met all inclusion criteria.
- **Aspirin**: 325 mg started 24 hours post-thrombolysis to prevent secondary clots.
- **Atorvastatin**: 40 mg daily for lipid management.
- **Lisinopril**: Continued for blood pressure regulation (target < 140/90~mmHg for secondary prevention).

- **Rehabilitation**: Physical and speech therapy initiated on Day

PROGNOSIS & FOLLOW-UP

The Patient showed significant improvement in motor function by Day 3. He was discharged on Day 7 to a sub – acute rehabilation facility.

Apixaban (Eliquis): 5 mg twice daily (Anticoagulant for Atrial Fibrillation).

Atorvastatin: 40 mg daily.

Lisinopril: 10 mg daily.

PATIENT COUNSELLING

- **B.E.F.A.S.T. Education**: Instructed the patient and family to recognize Balance loss, Eyesight changes, Facial drooping, Arm weakness, Speech difficulty, and Time to call emergency services.
- **Lifestyle**: Emphasized a low-sodium diet, smoking cessation, and strict adherence to anticoagulation therapy to prevent a recurrent stroke.
- **Safety**: Discussed fall prevention strategies due to residual right-sided weakness.

CONCLUSION

This case highlights the importance of the "Golden Hour" in stroke management. Rapid identification and the use of thrombolytics significantly improved this patient's functional outcome. Addressing underlying comorbidities, specifically Atrial Fibrillation through anticoagulation, is paramount in preventing secondary cerebrovascular events.