



MNT II

Neurologic Disorders

Stroke Case Study

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Fun Fact: May Is Stroke Awareness Month

Presentation Layout

Stroke Education

Stroke Case

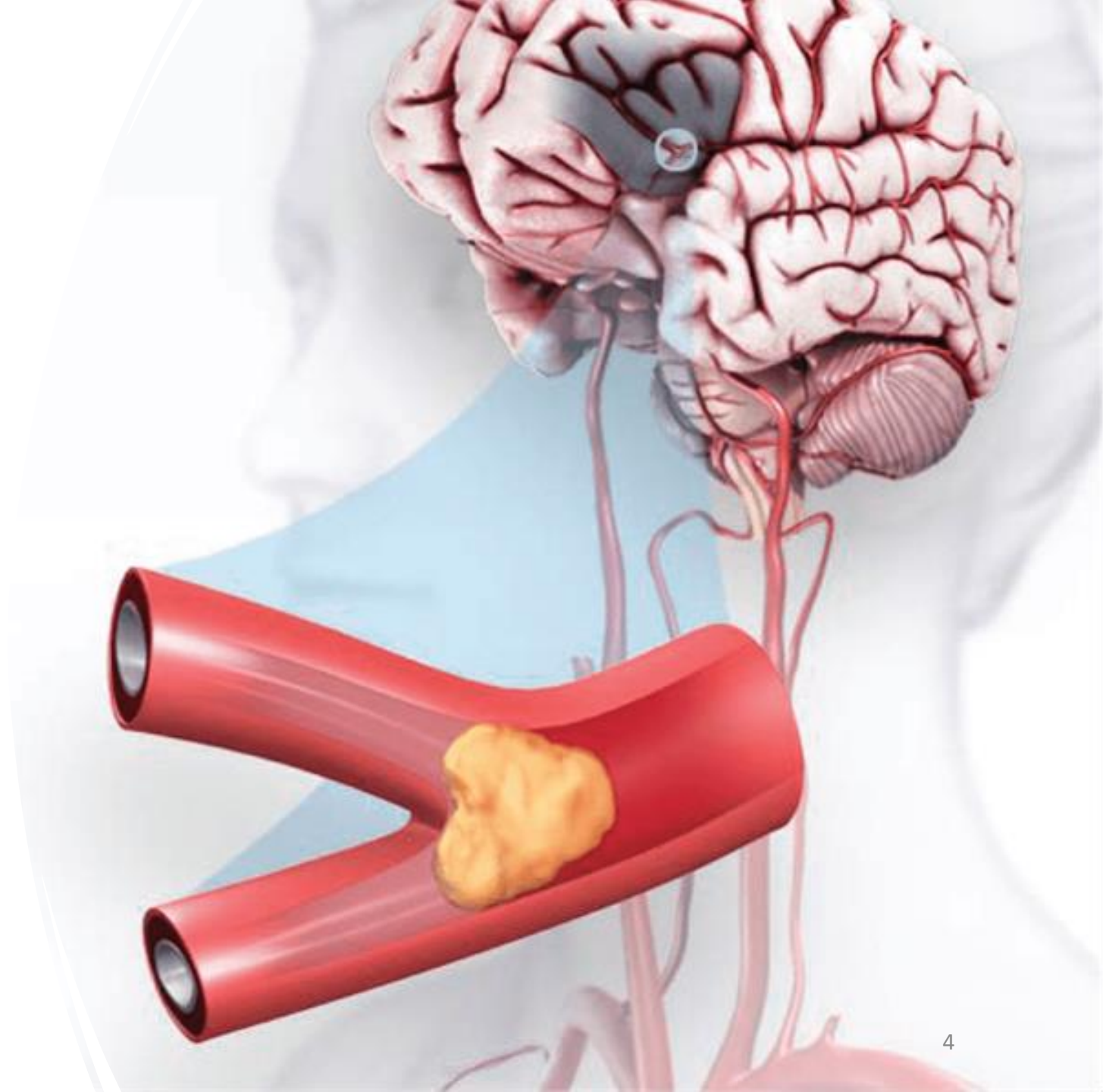
RD2B Perspective

Stroke Education

Neurologic Disorder

About Stroke

- Occurs when a blood vessel that carries oxygen and nutrients to the brain is either blocked (thrombotic) by a clot or bursts (embolic)
- Affects arteries leading to and within the brain
- Death of brain cells
- No. 5 cause of death
- **80%** of strokes are preventable



Symptoms

Sudden Symptoms

Numbness or weakness

Confusion or trouble speaking or understanding speech

Trouble seeing in both eyes

Trouble walking, dizziness, loss of balance

Severe headache

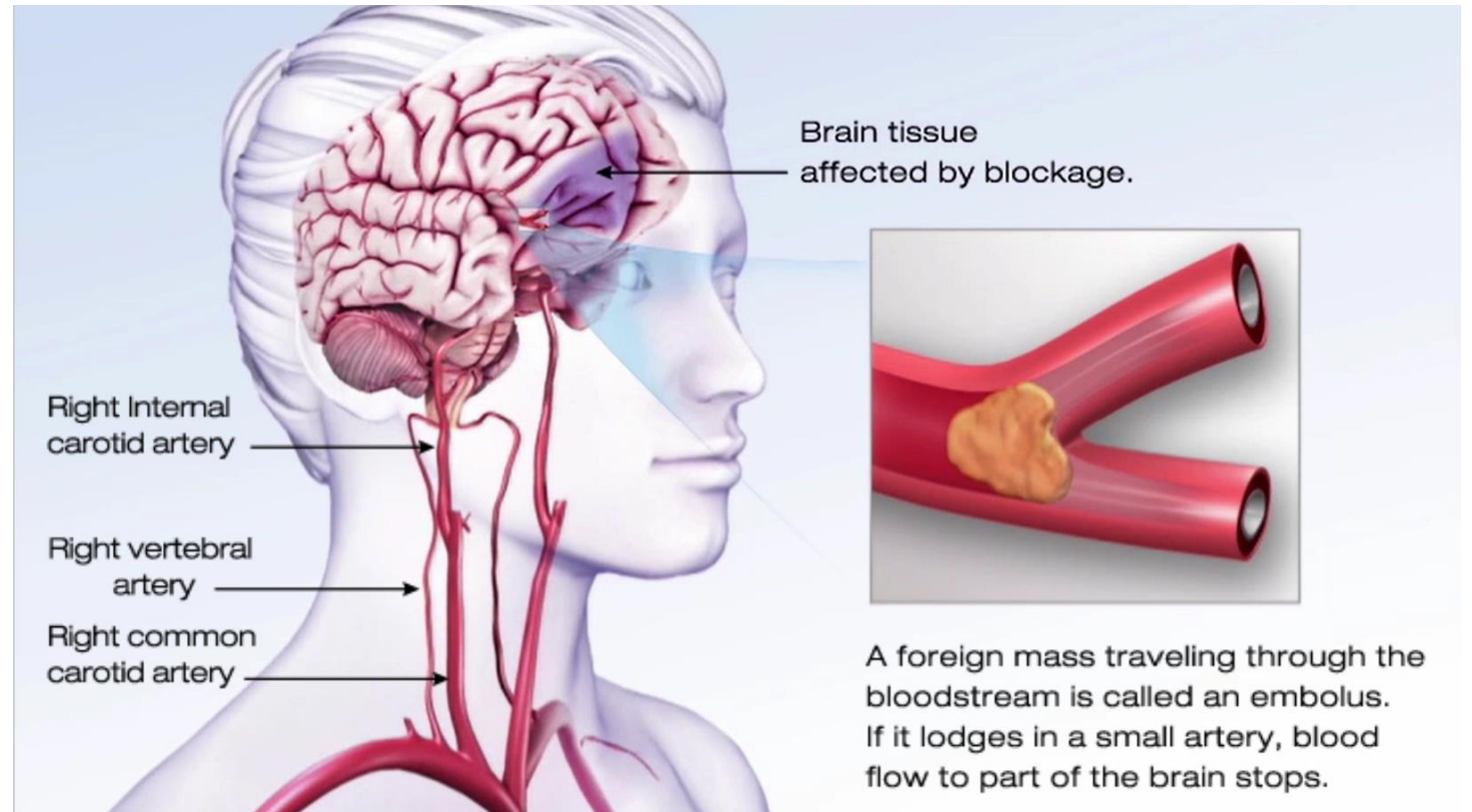
Pathophysiology

Types of strokes

- **Ischemic Stroke (Clots)**
 - A blood vessel supplying blood to the brain is obstructed.
- **Hemorrhagic Stroke (Bleeds)**
 - A weakened blood vessel ruptures.
 - Aneurysms
 - Arteriovenous malformations
- **Transient Ischemic Attack (mini-stroke)**
 - Caused by a serious temporary clot
- **Cryptogenic Stroke**
 - The cause of a stroke can't be determined
- **Brain Stem stroke**
 - May affect both sides of the body. Generally unable to speak or move below the neck

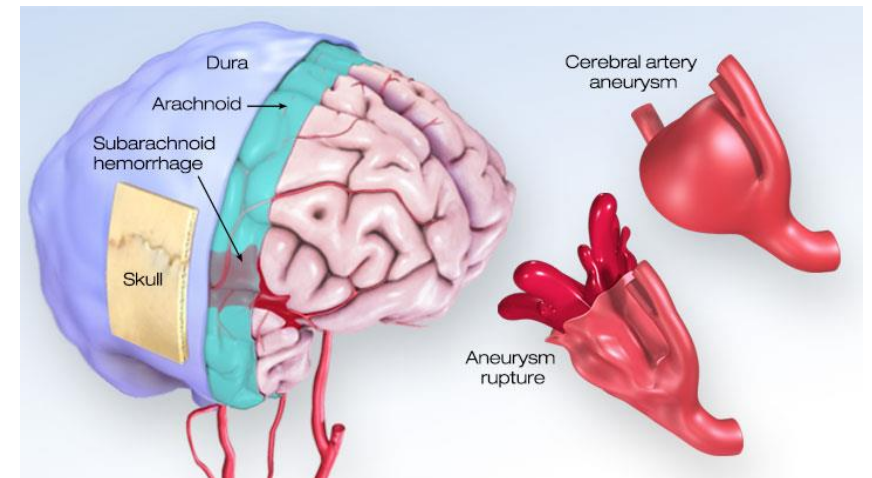
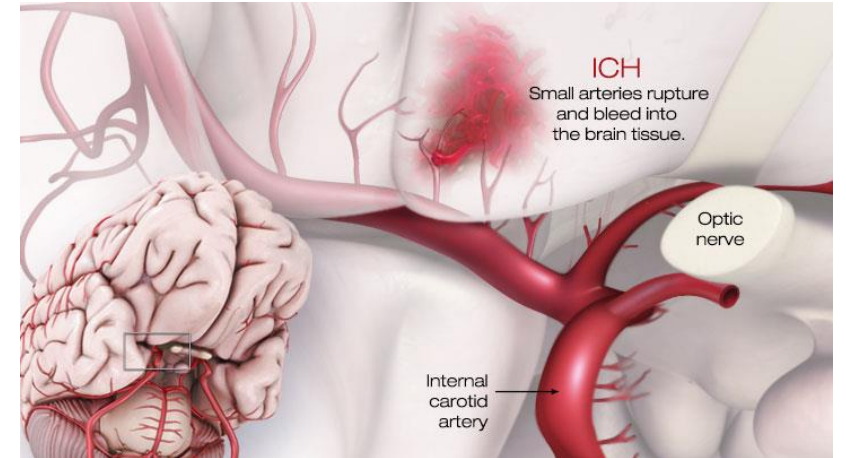
Ischemic Stroke (Thrombotic)

- A clot or mass clogs a blood vessel
 - cutting off the blood supply to the brain
- **80%** of all strokes
- Underlying condition: **atherosclerosis**, development of fatty deposits in the vessel walls



Hemorrhagic Stroke (Bleeds) Embolic

- Caused by a weekend vessel ruptures and bleeds into the surrounding brain
 - blood accumulates and compresses the surrounding brain tissue
- **13%** of all strokes
- Most common cause **hypertension**
- Two types of hemorrhage
 - Intracerebral (within the brain)
 - subarachnoid



Transient Ischemic Attack

Warning stroke: blood clot in an artery for a short time

Transient (temporary) blockage

Short time

No permanent damage

Important to call 911

Use the letters in **F.A.S.T** to Spot a Stroke

- **F = Face Drooping** – Does one side of the face droop or is it numb? Ask the person to smile. Is the person's smile uneven?
- **A = Arm Weakness** – Is one arm weak or numb? Ask the person to raise both arms. Does one arm drift downward?
- **S = Speech Difficulty** – Is speech slurred?
- **T = Time to call 911**

Stroke Diagnosis & Evaluation

- **Determine if ischemic or hemorrhagic**
 - Computed tomography (CT) of the head
 - CT angiography (CTA)
 - CT perfusion (CTP)
 - MRI of the head
 - MR angiography (MRA)
- **Determine type, location, and cause**
 - Blood tests
 - Electrocardiogram (ECG, EKG)
 - Carotid ultrasound
 - Doppler Ultrasound
 - Cerebral angiography

Treatment Stages

Three treatments

- **Prevention:** hypertension, arterial fibrillation, diabetes
- **Immediate therapy** after the stroke
- **Post-stroke rehabilitation**

Acute stroke therapy
(stop stroke)

Post stroke rehabilitation

- Physical therapy
- Occupational therapy
- Activities of daily life

Medication

Antithrombotic (antiplatelet & anticoagulant agents)

- warfarin or heparin

Thrombolytics (dissolve blood clots)

- alteplase, or recombinant tissue plasminogen activator (rt-PA)

Prognosis of Stroke

Hemiplegia: Complete paralysis in one side of the brain

Hemiparesis: One-sided weakness

Problems with thinking, awareness, attention, learning, judgment, and memory

Speech problems

Emotional problems

Depression

Numbness / strange sensations

Recurrent stroke: **25%** another stroke in **5** years

Stroke Case

Ruth Noland

Nutrition Assessment Data Client History

Patient: Female, 77 years old, retired

Household members: lives with 82 years old husband

Ethnic Background: European American

PMH: Hypertension X 10 years; Hyperlipidemia X 2 years

Meds: Captopril 25 mg twice daily, lovastatin 20 mg once daily

No smoking

No allergies

Symptoms: slurred speech, numbness on the left side of her face, and weakness of her left arm and leg

Nutrition Assessment Data Anthropometrics

- Height 5'2"
- Weight 165 lb.
- Weight Changes: NA
- BMI Class: **30.2** (obese)
- IBW: 110 lb. (Hamwi equation)
- IBW%: 150% (**50%** higher than IBW)
- Abnormal blood values:
 - Low transferrin
 - High cholesterol
 - Low HDL
 - High LDL
 - High A1K Phos.

Nutrition Assessment Data Calculations

RMR (Mifflin St Jeor)

- 1,194 Kcal

EEN

- **1,433 Kcal**

24-hour diet recall

- **2,965 Kcal**
- Excessive energy intake

Protein

- Recommended: **75-94 g/kg**
- Actual intake: **125 g/kg**

Fluids

- **82%** (according to Cronometer)

Good appetite

- Avoids added salt, fried food
- Does not follow a specific diet

Physical Exam

- BP **138/88** (according to AHA, HTN Stage 1)
- Weakness of the right side involving right arm and leg
- Face and arm weakness (disproportionate to leg weakness)
- Impaired sensation on the contralateral side
- Dysarthria with tongue deviation
- Impaired cranial nerves: III, V, VII, and XII
- Diminished motor function tone and strength
- Plantar reflex decreased (right side)
- Extremities: Reduced strength, bilaterally

Physical Exam Cont.

Put on the acute stroke protocol

- Diet: NPO except for medications for 24 hours

Lacunar ischemic stroke

- NIH stroke Scale score of 14

Lacunar Ischemic Stroke Patient's Prognosis

Small deep infarcts

25% of all ischemic strokes

Favorable long-term prognosis

Within a few years of the stroke:

- Recurrent stroke similar to other strokes
- Increased risk of cognitive decline & dementia
- More studies are needed for specific guidelines
- Risk factor modifications (**huge role**)

RD2B Perspective

Rifqa Dacloush

Possible PES Statements

- Predicted inadequate energy intake **related to** dysphagia due to lacunar ischemic stroke diagnosis **as evidenced by** slurred speech, numbness on the left side of the face, and weakness of the left arm and leg
- Altered nutrition-related laboratory values **related to** excessive energy intake **as evidenced by** obesity, hypertension X 10 years, hyperlipidemia X 2 years, abnormal blood lab values, and stroke symptoms (slurred speech, numbness on the left side of her face, and weakness of her left arm and leg)

Nutrition Implications

- Dysphagia (difficulty swallowing)
- Speech pathologists Play a crucial part (evaluating and prescribe diet consistency)
- **Concerns**
 - Weight loss
 - Anorexia
 - Dehydration
- **Possible interventions**
 - Assistance during mealtime
 - Diet modifications



Diet Modifications for Dysphagia

- Small, frequent meals
- Cold food
- Sauces and gravies
- Moist food
- Avoid crumbly foods
- Alcohol is not recommended
 - Dries out the oral membrane
- **Mediterranean diet**

Goals

Short

- Meet at least 75% of estimated energy needs and protein
- Lower blood pressure to be within the normal range
- Education on sodium content in foods

Long

- Monitor weight changes
- Normally weight to be maintained within 2 kg (ex. Pt to lose 1-2 lbs. weekly)
- Concern about weight loss & anorexia

Monitoring and Evaluation

- Monitor estimated energy needs and protein needs
- Continuous monitoring of blood pressure
- Weight measurement
- Waist measurement



Thank you!

Enjoy Summer 😊