

## Cerebrovascular accident(Stroke)



**Presented by-**  
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## DEFINITION

A stroke occurs when the blood supply to part of your brain is interrupted or reduced, depriving brain tissue of oxygen and nutrients. Within minutes, brain cells begin to die.

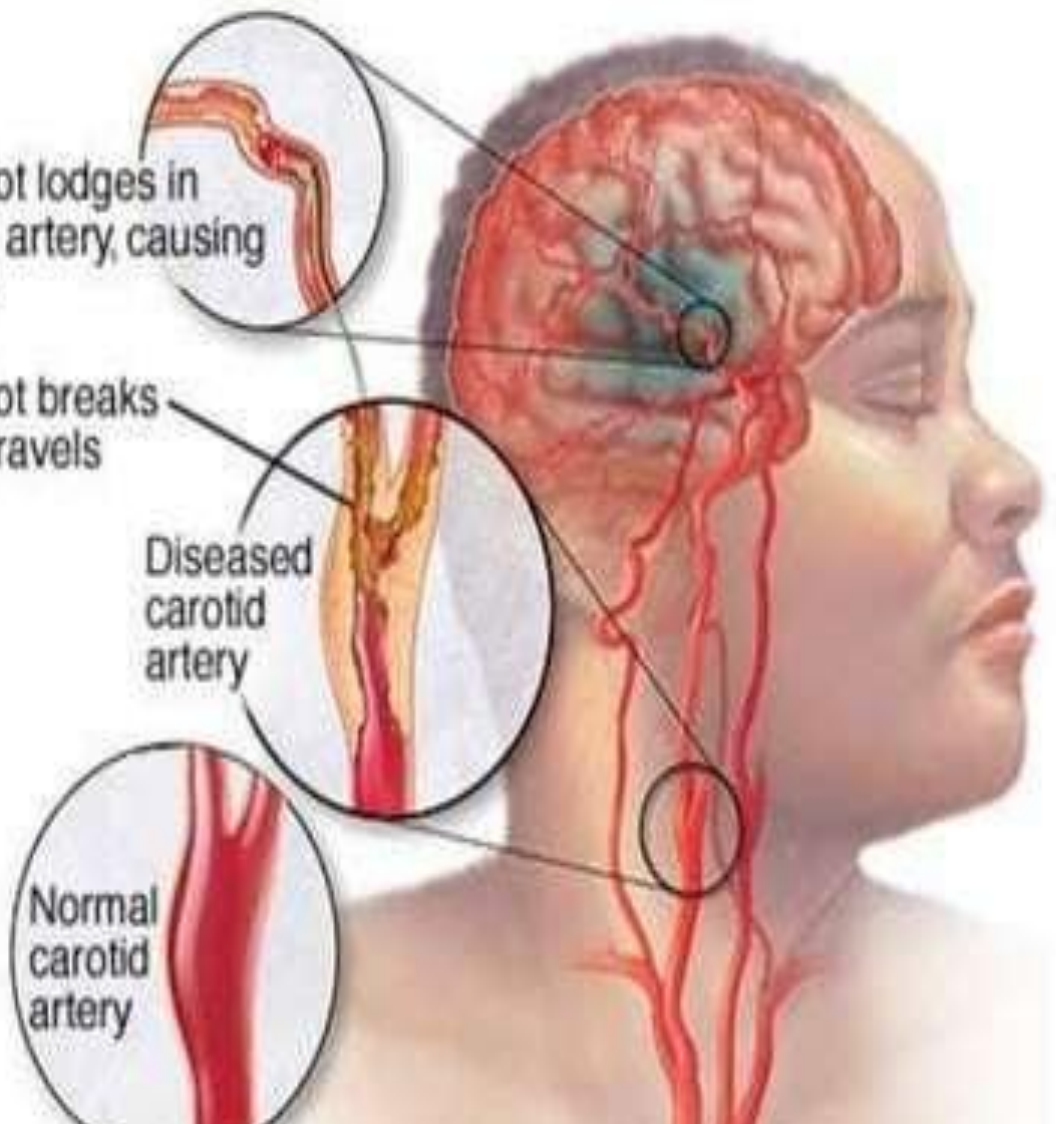


Blood clot lodges in cerebral artery, causing a stroke

Blood clot breaks off and travels

Diseased carotid artery

Normal carotid artery



## INCIDENCE

**Stroke** is one of the leading causes of death and disability in **India**. The estimated adjusted **prevalence** rate of **stroke** range, 84-262/100,000 in rural and 334-424/100,000 in urban areas. ... There is also a wide variation in case fatality rates with the highest being 42% in Kolkata.(2018)

# RISK FACTOR

## **Lifestyle risk factors**

- ▶ Being overweight or obese
- ▶ Physical inactivity
- ▶ Heavy or binge drinking
- ▶ Use of illicit drugs such as cocaine and methamphetamines

## **Medical risk factors**

- ▶ Blood pressure readings higher than 120/80 millimeters of mercury (mm Hg)
- ▶ Cigarette smoking or exposure to secondhand smoke
- ▶ High cholesterol

## CONTI.....

- ▶ Obstructive sleep apnea
- ▶ Cardiovascular disease, including heart failure, heart defects, heart infection or abnormal heart rhythm

### **Other factors associated with a higher risk of stroke include:**

- ▶ **Age** — People age 55 or older have a higher risk of stroke than do younger people.
- ▶ **Race** — African-Americans have a higher risk of stroke than do people of other races.
- ▶ **Sex** — Men have a higher risk of stroke than women. Women are usually older when they have strokes, and they're more likely to die of strokes than are men.

## CAUSES

### a) Ischemic stroke

About 80 percent of strokes are ischemic strokes. Ischemic strokes occur when the arteries to your brain become narrowed or blocked, causing severely reduced blood flow (ischemia). The most common ischemic strokes include:



## CONTI.....

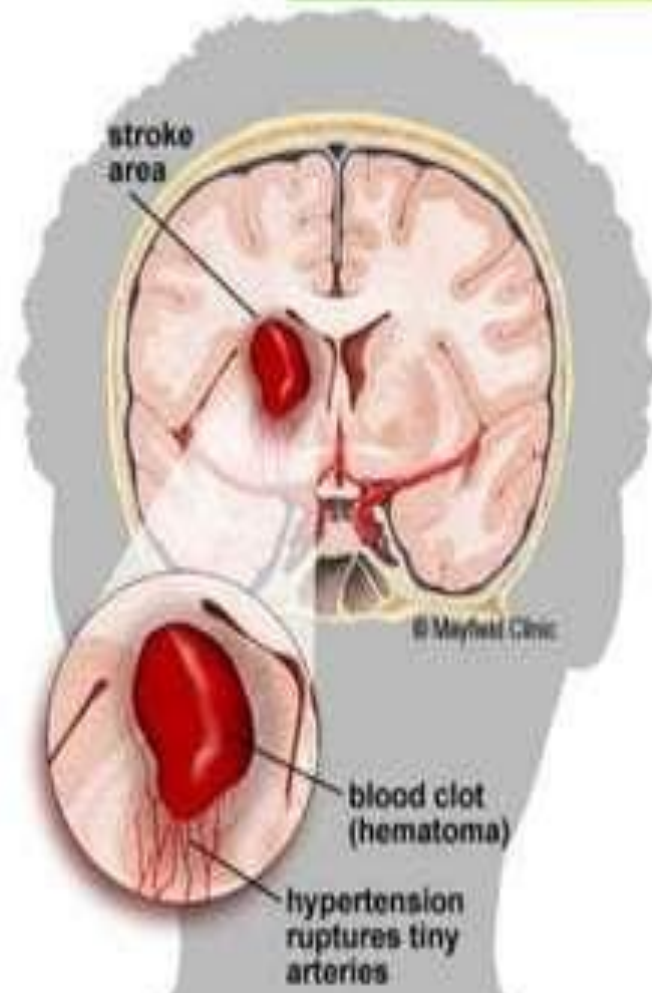
- ▶ **Thrombotic stroke.** A thrombotic stroke occurs when a blood clot (thrombus) forms in one of the arteries that supply blood to the brain.
- ▶ **Embolic stroke.** An embolic stroke occurs when a blood clot or other debris forms away from the brain.



CONTI.....

## b) Hemorrhagic stroke

Hemorrhagic stroke occurs when a blood vessel in your brain leaks or ruptures. Brain hemorrhages can result from many conditions that affect your blood vessels.



## CONTI....

- ▶ **Intracerebral hemorrhage.** In an intracerebral hemorrhage, a blood vessel in the brain bursts and spills into the surrounding brain tissue, damaging brain cells.
- ▶ **Subarachnoid hemorrhage.** In a subarachnoid hemorrhage, an artery on or near the surface of the brain bursts and spills into the space between the surface of the brain and the skull.

## CONTI.....

### **e)Transient ischemic attack (TIA)**

A transient ischemic attack (TIA) — sometimes known as a ministroke. A temporary decrease in blood supply to part of the brain causes TIAs, which may last as little as five minutes.

# SYMPTOMS

## **B**

Balance

## **E**

Eyes

## **F**

Face

## **A**

Arms

## **S**

Speech

## **T**

Time



**B** is for Balance

Does the person have a sudden loss of balance?

**E** is for Eye

Has the person lost vision in one or both eyes?

**F** is for Face

Does the person's face look uneven?

**A** is for Arm

Is there weakness in one or both arms?

**S** is for Speech

Is the person's speech slurred? Does the person have trouble speaking or

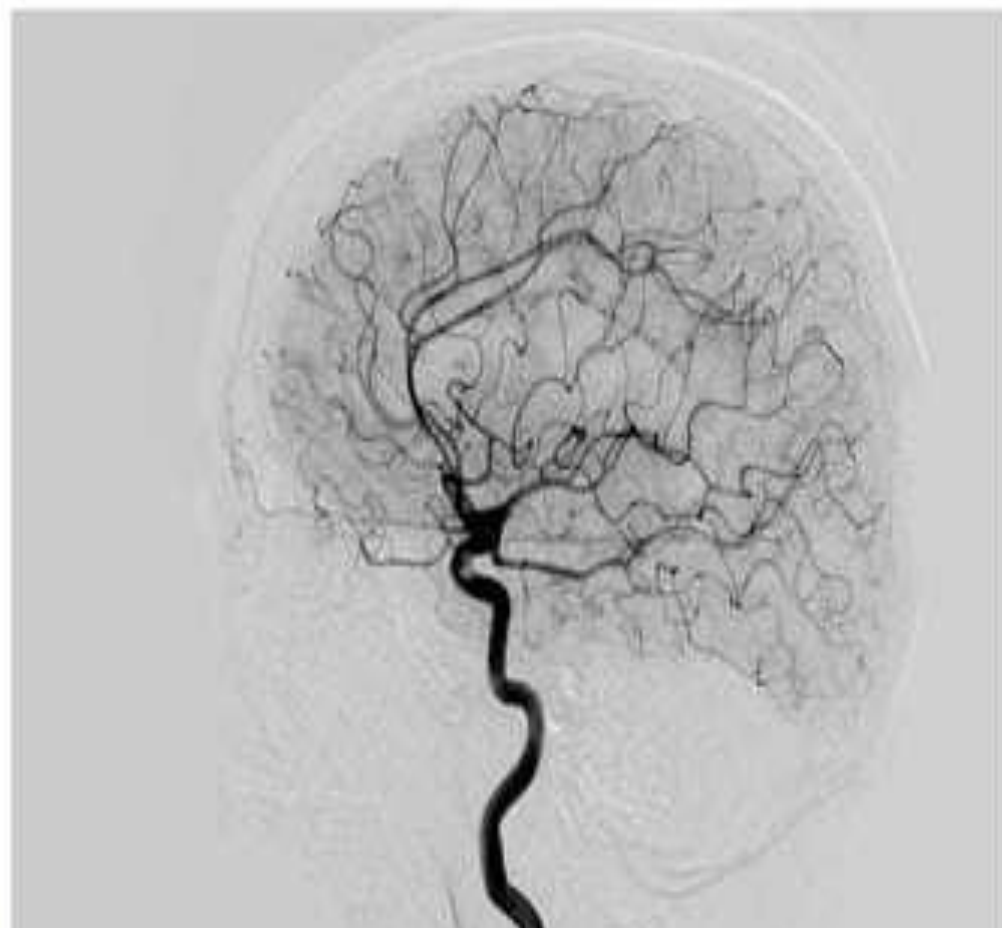
**T** is for Time

Call 911 Now or dial the internal emergency number if you are at Atlantic

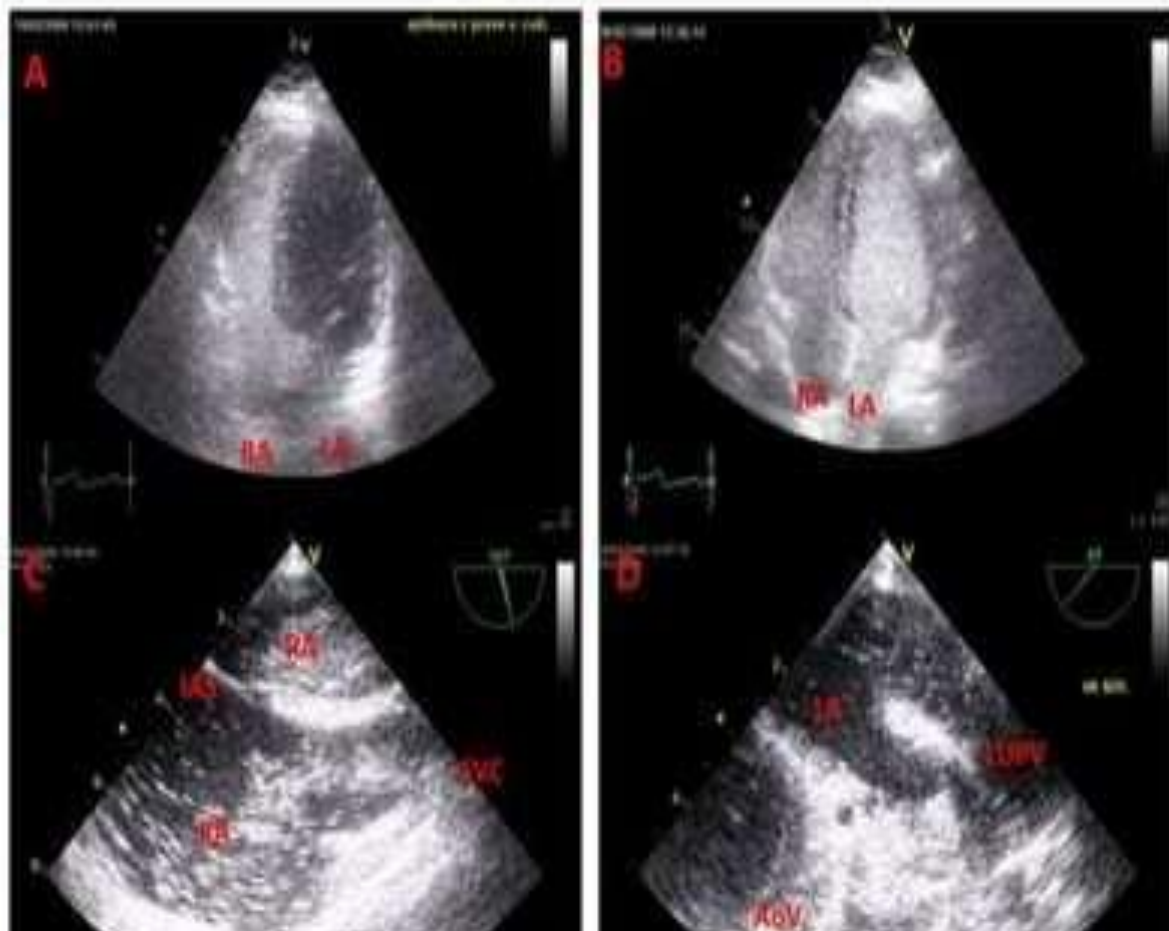
## DIAGNOSTIC EVALUATION

- ▶ Physical examination
- ▶ Blood tests.
- ▶ Computerized tomography (CT) scan.
- ▶ Magnetic resonance imaging (MRI).
- ▶ Carotid ultrasound.

## Cerebral angiogram.



## Echocardiogram-



# COMPLICATION

- ▶ Paralysis or loss of muscle movement
- ▶ Difficulty talking or swallowing
- ▶ Memory loss or thinking difficulties.
- ▶ Emotional problems
- ▶ Changes in behavior and self-care ability



## PREVENTION

- ▶ Controlling high blood pressure (hypertension).
- ▶ Lowering the amount of cholesterol and saturated fat in diet
- ▶ Quitting tobacco use
- ▶ Controlling diabetes
- ▶ Eating a diet rich in fruits and vegetables.
- ▶ Exercising regularly
- ▶ Drinking alcohol in moderation, if at all.
- ▶ Treating obstructive sleep apnea
- ▶ Avoiding illegal drugs.

# PREVENTIVE MEDICATIONS

- ▶ **Anti-platelet drugs**
- ▶ **Anticoagulants**

# MEDICAL MANAGEMENT

## a) Ischemic stroke

### **Emergency treatment with medications.**

Therapy with clot-busting drugs must start within 4.5 hours if they are given into the vein.

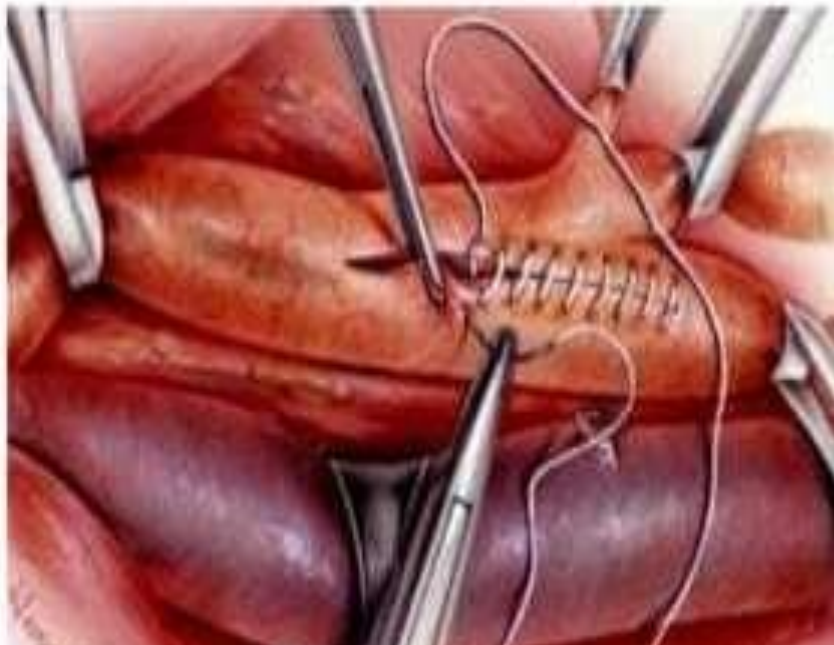
- Intravenous injection of tissue plasminogen activator (tPA)

### **Emergency endovascular procedures.**

- Medications delivered directly to the brain.
- Removing the clot with a stent retriever.
- Carotid endarterectomy.

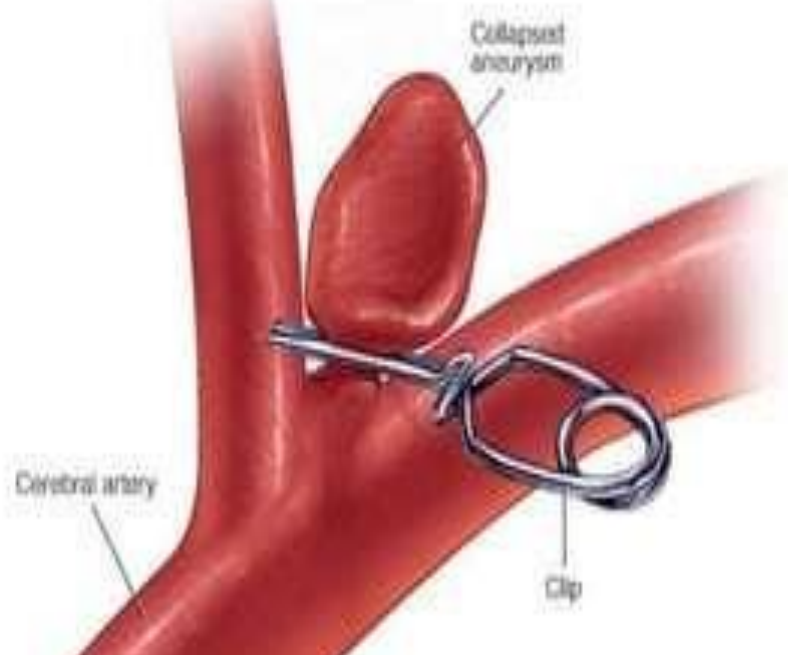
## b) Hemorrhagic stroke

**Surgical blood vessel repair.** Surgery may be used to repair blood vessel abnormalities associated with hemorrhagic strokes.



# SURGICAL MANAGEMENT

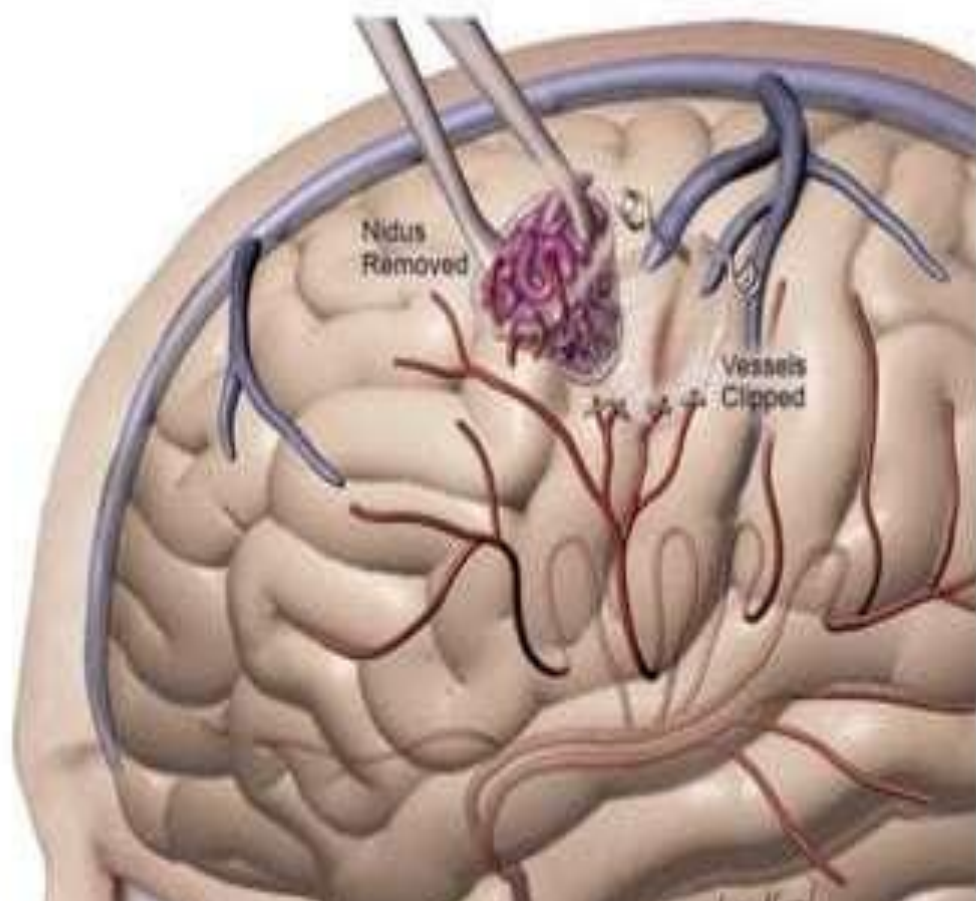
## ► Surgical clipping



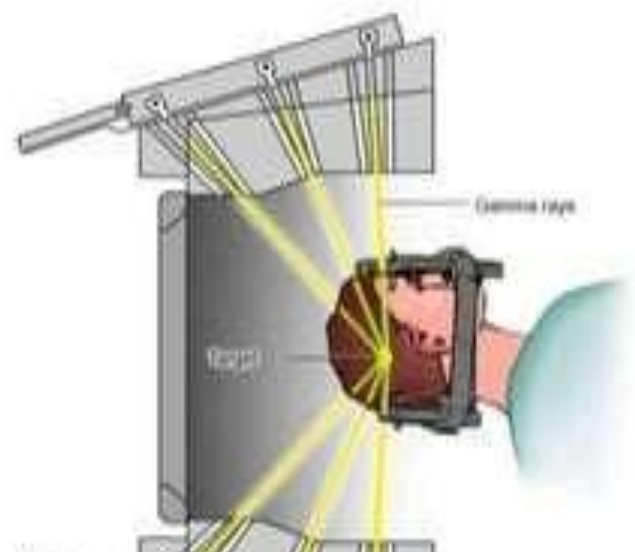
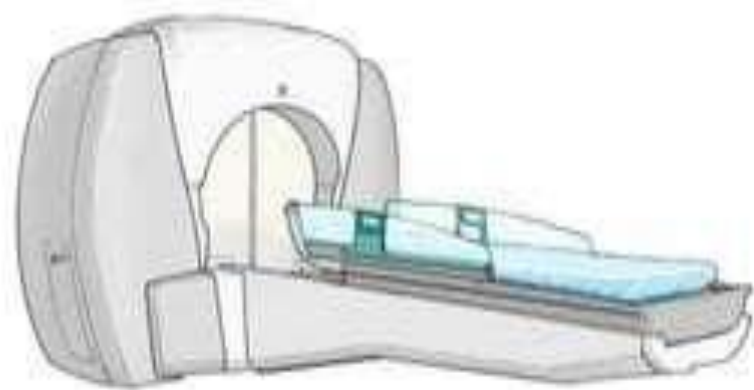
## Coiling (endovascular embolization)



## Surgical AVM removal



## Stereotactic radiosurgery





## NURSING MANAGEMENT

- ▶ Pain related to increased intracranial pressure as evidenced by patient verbalisation
- ▶ Hyperthermia related to disease condition as evidenced by raised body temperature
- ▶ Imbalanced nutrition less than body requirement related to less intake of food as evidenced by weight loss
- ▶ Disturbed sleep pattern related to hospitalisation as evidenced by patient verbalization

# BIBLIOGRAPHY





Thank  
you!!