

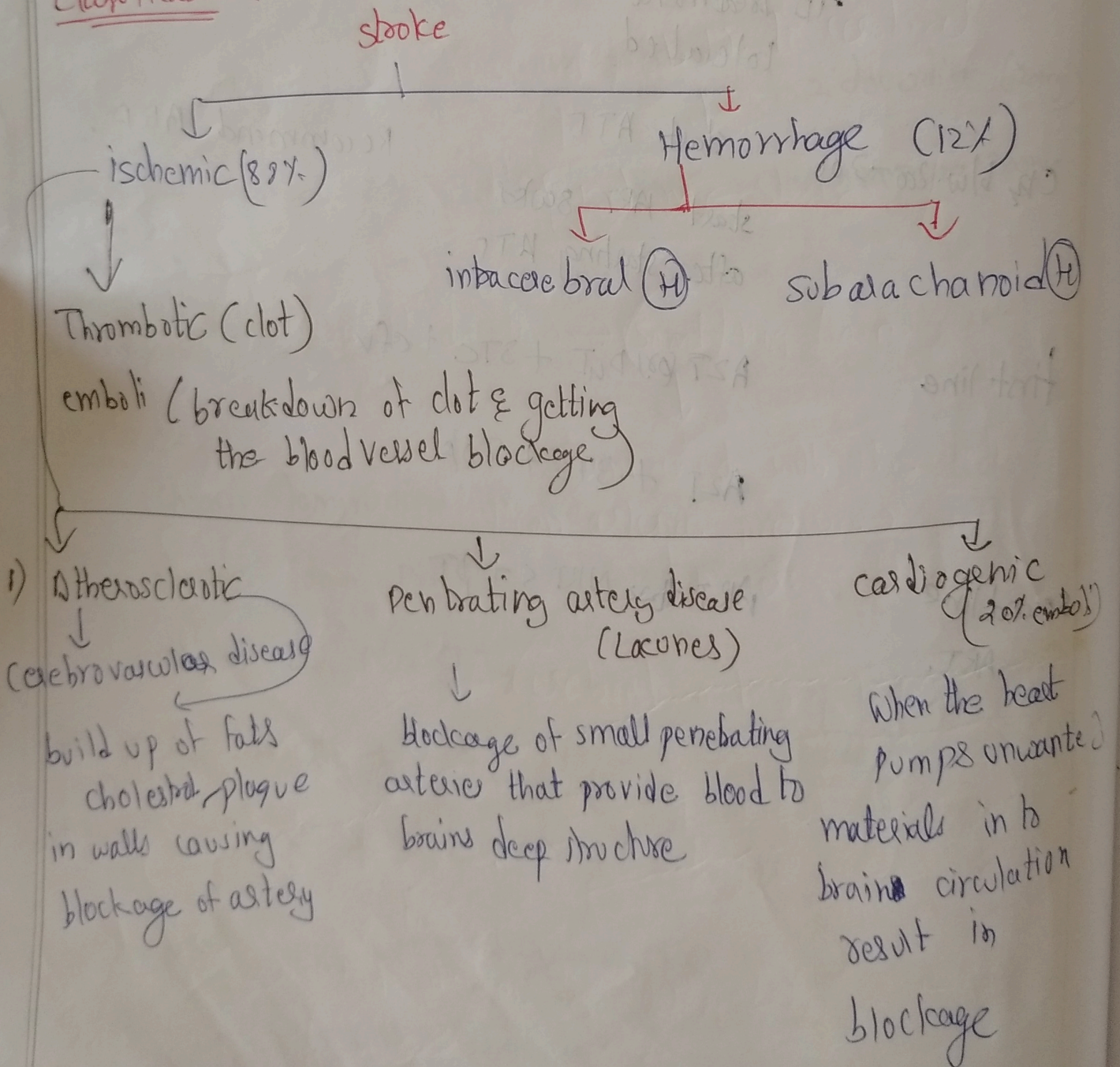
stroke:

It is a medical condition in which poor blood flow to the brain.

It occurs when blood vessels get ruptures
Bleeds

Blockage of Blood supply to brain.

classification:-



Cryptogenic stroke 30%

Due to cerebral ischemia of unknown either it may be reversible.

Risk factors:-

Age (>55 yrs)

Gender (Male are more suffering)

low birth weight

Family history

} Non modifiable

HTN

AF

cardia disease

Diabetes

Smoking

Alcohol

obesity

Diet

physical inactivity.

Pathophysiology:-

In carotid atherosclerosis →

Progressive accumulation of lipids of inflammatory cells in intima of affected arteries, + combined with hypertrophy of arterial smooth muscle form

↓

Plaque

↓

- due to stress & HTN, it gets
- ① rupture
 - ② collagen exposure
 - ③ platelet aggregation
 - ④ clot formation.

* clot → ① blockage of blood vessels

② In cardiogenic embolism

↓
unwanted arterial clot → travels directly via aorta to cerebral circulation

formation of clot

↓
↓ BF to cerebral

↓
Ischemic Stroke

* Normal cerebral blood flow → 50 ml / 100g / min.

↓
maintained with the help of Mean arterial pressure → 90 to 100 mmHg
↓ process called

cerebral autoregulation

* cerebral blood vessels — dilate & constrict in response to change in blood pressure

↓

But it can be impaired by Atherosclerosis

HTN

Any injuries etc.

$< 2 \text{ ml} / 100 \text{ g} / \text{min}$ - ischemia condition

$< 12 \text{ ml} / 100 \text{ g} / \text{min}$ - irreversible damage to brain
↓
infarction.

~~Ischemic~~ Ischemic cell

↓
① ↓ used nutrition, ATP ↑ extracellular K^+
↑ intracellular Na^+ water.
↓
cells, swelling, lysis.

② ↑ intracellular Ca^{2+}
↓
activation of lipases, proteases, endonucleases
free FA's form membrane phospholipids
↓
damage to mitochondria

③ excitatory AA ↓ glutamate, aspartate
↓
neuronal damage.

④ Accumulation of FA's, free radicals
↓
cell membrane attack, intracellular acidosis

①②③④ → occurs within 2 to 3 hr of onset of ischemia
↓
total cell death

② Hemorrhagic stroke! glial cells, neurons

Presence of blood in parenchyma

↓
Damage to surrounding tissue cause to neurotoxicity of blood components & ~~are~~ their degradation production.

Due to ↑ intra cranial pressure

He ↓