

Q. Factors that help in estimating the time since death. Describe the rigor mortis in brief.

→ Estimation of time since Death.

- changes in eye
- Algor mortis
- PM staining
- Rigor mortis
- Decomposition changes
- Insect activity.
- Stomach contents
- Urinary bladder
- Biochemical changes in vitreous humour
- Growth of hair & nails
- Flow - cytometry

⊗ Stomach contents.

usually emptied 2-4 hrs after solid meal.

so if containing solid food death occurred within 4 hrs.

if not contained solid fd. → Not taken fd within 2 hrs (last)

Time since death from postmortem changes

* Dilatation of pupil — Immediate

v. Rigor mortis

Heart (m)

— 4 hr

Externally starts on eye lids

— 2 - 2 hr

Fully established in all muscles

— 4 - 6 hrs

Begins to pass off

— 18 hrs

Completely pass off

— 24-36 hrs.

* PM staining

— 4 hr

Patchy mottling

— 5 hrs

Coalesce

— 6 to 12 hrs

Fixation

Merges with color of decomposition — 36 hours

* Greenish discoloratⁿ of
at iliac fossa

— 18 hrs

* Marbling

— 36 hrs

v. Postmortem peeling of skin

48 to 72 hrs

Maggots

— 48 hrs

Oris rigidity

— 48 to 72 hrs

Hair becomes loose

— 72 hrs

v. Colliquation putrefaction

— 5 to 7 days.

- * Adipocere
- * Mummification
- * Desiccation of bones

3 wks - 3 months
3 - 6 months
3 - 10 yrs.

Rigor Mortis

- * This is the postmortem stiffening of muscles.
- * Physico-chemical process involving both voluntary and involuntary m of the body after 1^{st} flaccidity
- * When ATP $\downarrow$ sed to 85% of initial value, overlapping portions of actin and myosin filaments



Rigid link of actomyosin $\rightarrow$ Rigor mortis.

- * Persists until autolysis & decomposition of proteins in muscles.
- * Nysten's Rule: ~~First~~ externally it first appears in eyelids $\rightarrow$ lower jaw $\rightarrow$ m of face, neck, upper limbs, then lower limbs.
a descending pattern $\leftarrow$
or proximodistal
- * Internally 1^{st} affects myocardium $\rightarrow$ rigid within $\frac{1}{2}$ to 1 hour.

Time of onset

* Begin $\rightarrow$ 1 to 2 hrs. (eyelids)

fully over body 4-6 hours

Passing of

* by 18 hours and fully within 24-36 hours.

Factors affecting.

- Body nature.
- Death nature.
- atmosphere.

Medicolegal significance.

- Sign of death
- Time since death
- Position of body @ time of death.
- Some conditions can stimulate rigor mortis like heat stiffening, cold stiffening, gas stiffening, cadaveric spasm.