

OXYGEN DISSOCIATION CURVE

When you have A CABET RIGHT thing to do is LET GO !!!

↓ Acidosis
↑ \bar{CO}_2
↑ Altitude
↑ BPG / DPG
↑ Exercise / Hypoxia
↑ Temperature

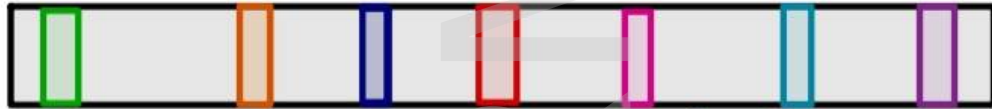
SHIFT
→
RIGHT

LET GO
↓ Hb affinity
↑ O_2 Delivery to Tissues

HEMOGLOBIN ELECTROPHORESIS: CELLULOSE ACETATE

@ pH 8.6

(-) slow



(+) fast

A₂

S

F

A₁

Bart's

I

H

C

D

mid

(fastest)

E

G

(fastest)
normal

abnormal
Hgb

Oarab







Lepore

Charlem

[Sad Dog Gets loved]

[ACE of Clubs]

RBC ABNORMAL MORPHOLOGY & INCLUSIONS

| | | | |
|---|--------------------------|---|---|
|  | MACROVALDCYTES | asynchronous development | Megaloblastic anemia |
|  | SPHEROCYTE / Bronze cell | loss of membrane/ spectrin | Hereditary spherocytosis, Hemolytic anemia |
|  | ELLIPTOCYTE / OVALOCYTE | bipolar aggregates of hemoglobin | Hereditary Elliptocytosis, IDA & Thalassemia |
|  | ECHINOCYTE / BURR CELL | depletion of ATP/ hypertonic solution/ artifact on stained smear; EVEN projections | Uremia, PK deficiency, artifactual |
|  | ACANTHOCYTE / SPURR CELL | change in plasma lipid ratio; UNEVEN projections | Abetalipoproteinemia, Severe liver disease |
|  | STOMATOCYTE | increased permeability to Na^+ | Liver cirrhosis, Alcoholism |

TREMATODES: LUNG FLUKE

Paragonimus westermani

- Chinese vase (ova)
- Coffee bean (adult)
- Crabs (2nd IH)

Common name: "Oriental Lung Fluke"

Disease: Paragonimiasis

Habitat: Lungs

1st IH (snail): *Brothia asperata* / *Antemelania*

2nd IH (crabs): *Sundathelphusa philippina*

Specimen: Sputum, stool, aspirate

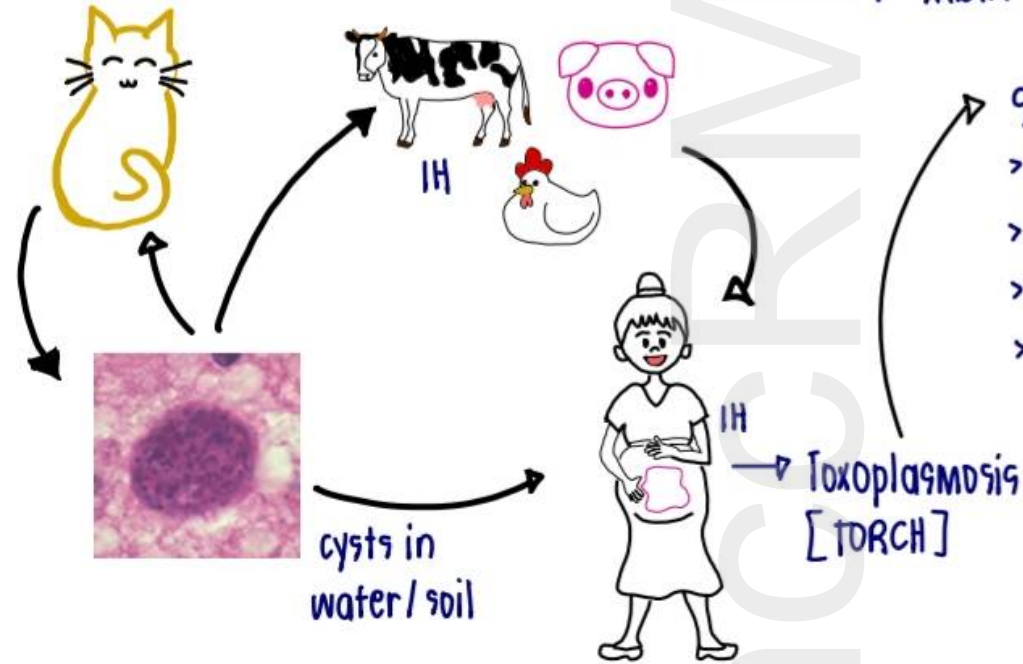
Ova: "Chinese vase" - broadly ovoidal w/ prominent operculum & abopercular thickening

Adult: "Coffee-bean"

TISSUE COCCIDIA: *Toxoplasma gondii*

▷ GABIN FELDMAN DYE TEST

Cat is IH & DH



GABIN'S TETRAD:

- > Retinochoroiditis
- > Cerebral calcification
- > Hydro/Microcephalus
- > Seizures

HEMOCYTOMETER

1 LARGE SQUARE (area): 1mm^2

9 LARGE SQUARES (total area): 9mm^2

DEPTH (top of platform to coverglass): 0.1mm

VOLUME (entire platform): $0.9\mu\text{L}$

1 WBC SQUARE (counting area): 1mm^2

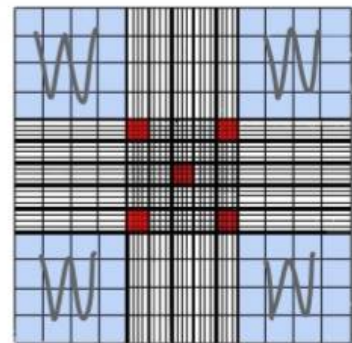
1 small RBC SQUARE (counting area): 0.04mm^2

1 PLATELET SQUARE (counting area): 1mm^2

* TOP & LEFT is COUNTED

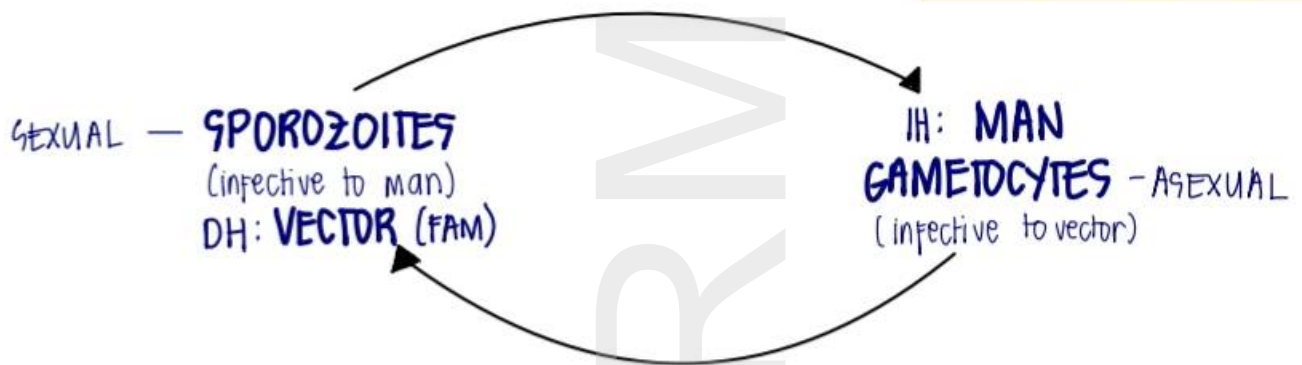
* BOTTOM & RIGHT is NOT COUNTED

■ areas of the grid where WBC are counted



■ areas of the grid where RBC are counted

LIFE CYCLE OF PLASMODIUM

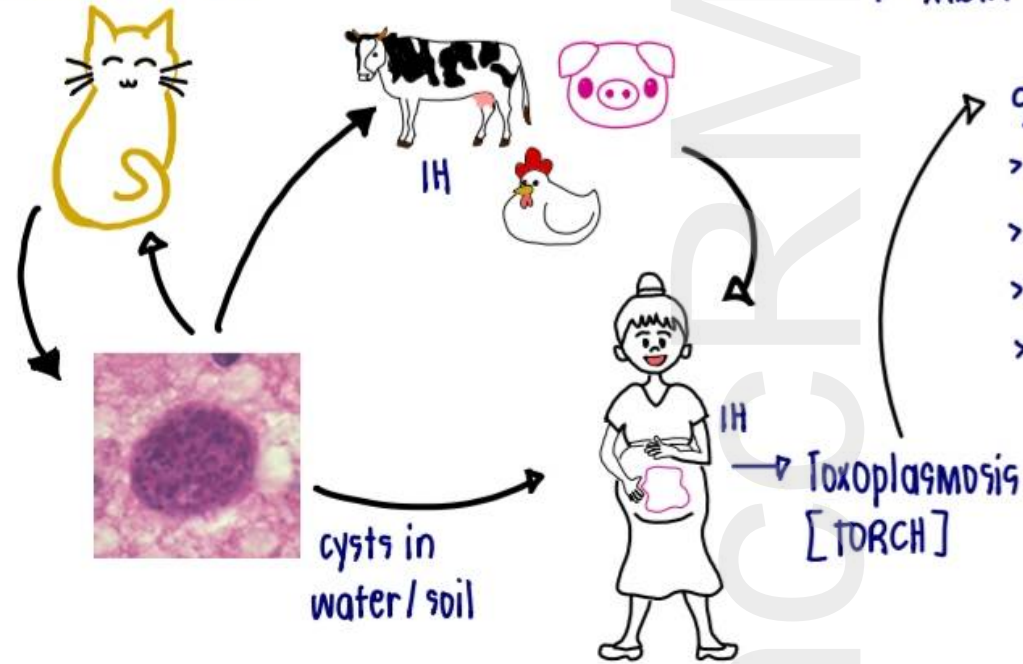


| | | |
|---------|---|------------|
| ASEXUAL | → | SCHIZOGONY |
| SEXUAL | → | SPOROGENY |

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NEMATODES: LIFE CYCLE

| | |
|--------------------|----------------------|
| <u>D</u> EFINITIVE | <u>I</u> NTERMEDIATE |
| <u>A</u> DULT | <u>L</u> ARVA |
| <u>S</u> EXUAL | <u>A</u> SEXUAL |

CERVICOVAGINAL CELLS

NAVICULAR - BOAT SHAPED cells w/
tendency to curl on edges

Menstrual Cycle (latter half)

Menopause

Mother who is PREGNANT

PREGNANCY CELLS

Peripheral nucleus w/ double
walled boundary appearance

Round-oval boat shaped cells
& translucent basophilic cytoplasm

DODERLAIN BACILLUS

Last Trimester of Pregnancy

Infection

Estrogen Deficiency

Diabetes Mellitus

Others:

- Glandular/Endocervical (honeycomb)

- Koilocytes (wrinkled prunes)

- C.albicans, T.vaginalis & G.vaginalis

SUPERFICIAL
↓
Old / Mature
↓ stained by
OG-6
↓ influenced by
estrOGen
↓ appears
polyGOnal
w/ **DARK PYKNOTIC NUCLEI**

EA-50 - EARly / Baby / Immature
↓
① INTERMEDIATE
↓
Basophilic & vacuolated cytoplasm
polygonal nucleus
↓
② PARABASAL
↓
Pitong Itlog (Fried egg nucleus)
↓
Abortion
↓
After Menopause
↓
After childbirth
↓
Age of 2wks - Puberty

HEMOFLAGELLATES

| Leishmania | T. brucei | T. cruzi |
|--|--|--|
| <p>A^m - Amastigote - seen in man - diagnostic stage</p> <p>P^hlebotomus - Promastigote - seen in vector (sandfly) - infective to man</p> | <p>E^v^{CTOR} - Epimastigote - seen in vector</p> <p>T^{ao} - Trypomastigote - seen in man - diagnostic stage</p> | <p>A^mastigote → Dx - tissues</p> <p>P^romastigote</p> <p>E^pimastigote</p> <p>T^rypomastigote (C-S-U) → Dx in blood</p> |
| <p>Infective stage: Metacyclic trypomastigote</p> | | |