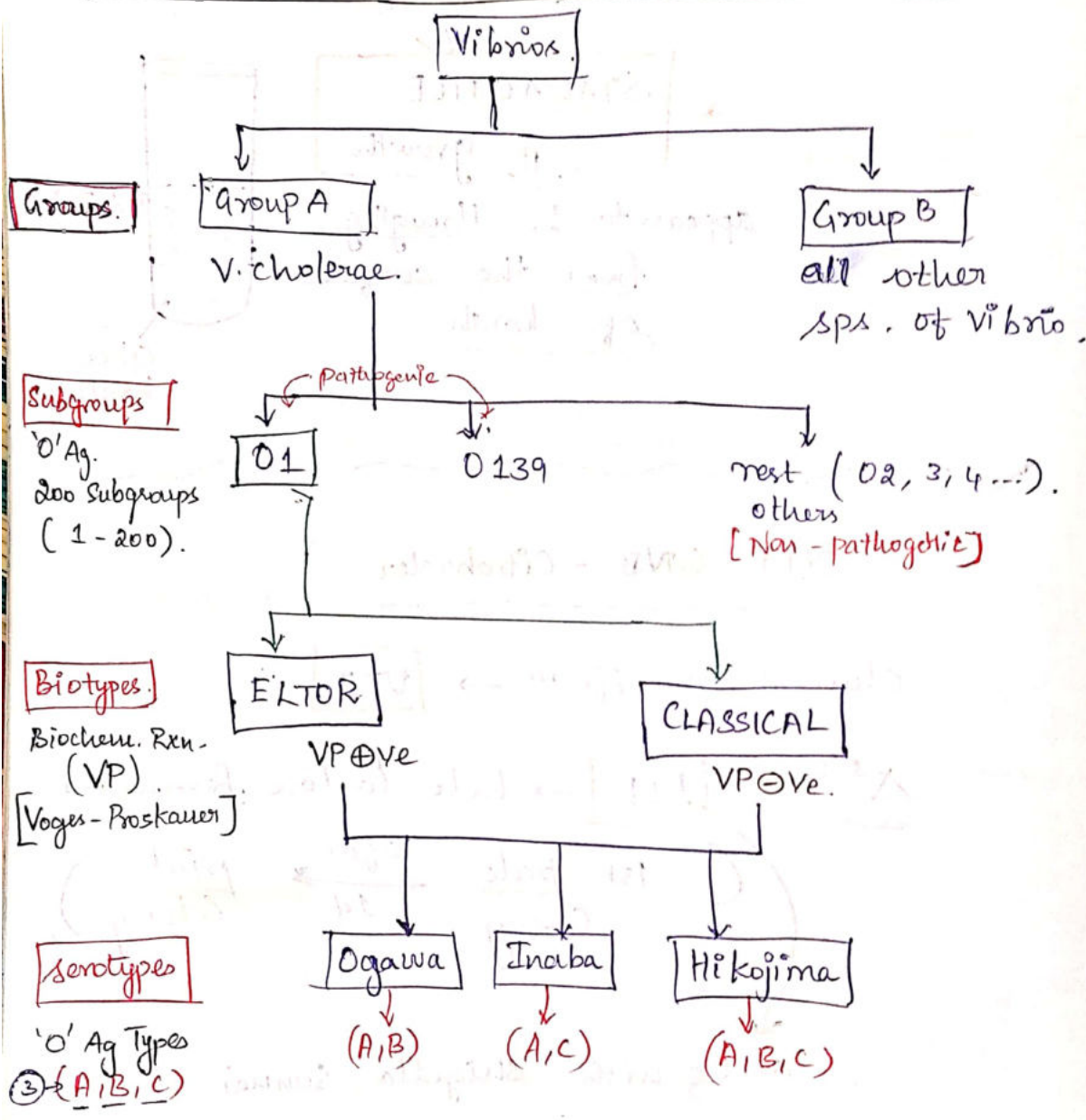


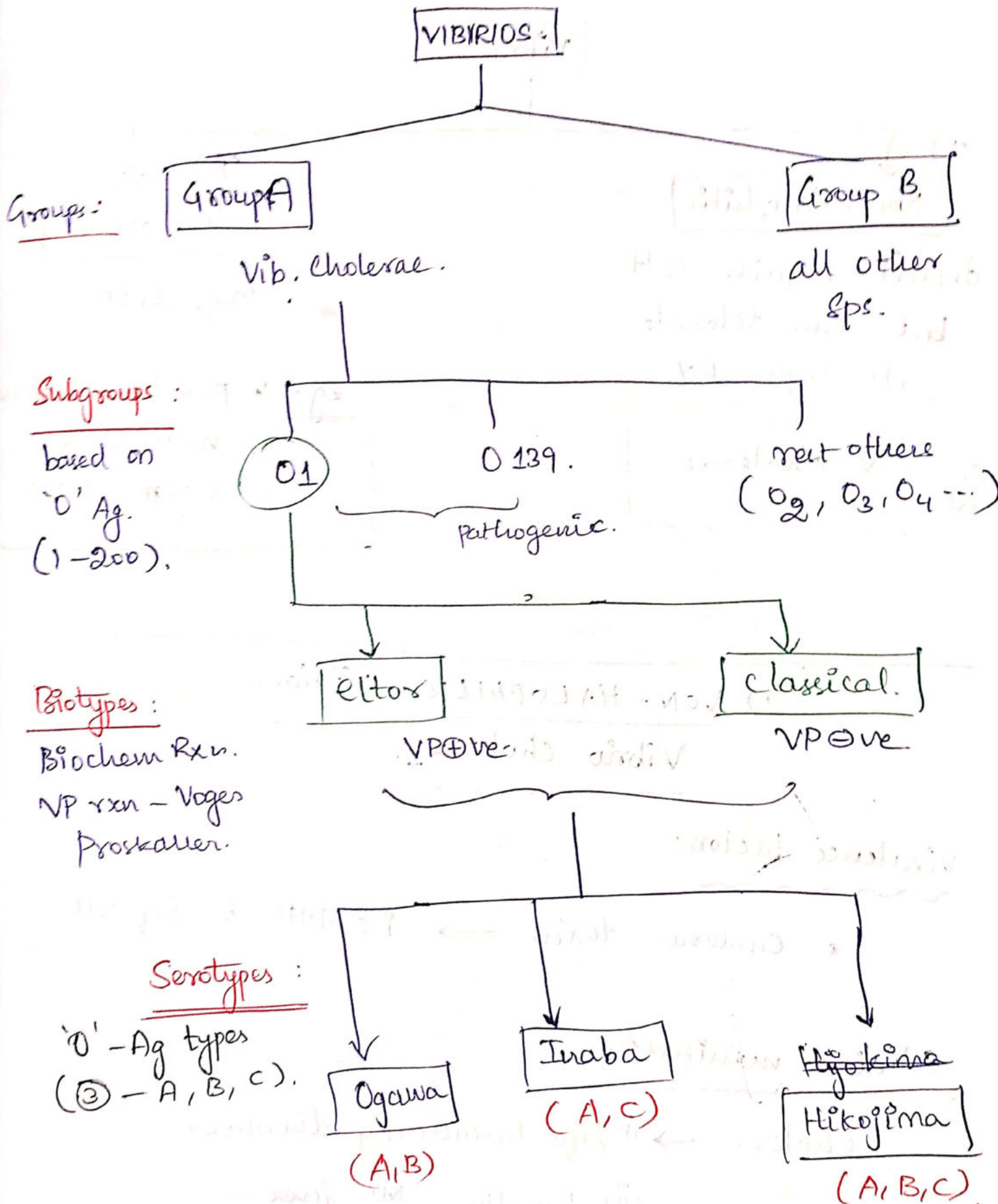


GNB - Oxidase +ve
(A) Vibrio (B) Pseudomonas (C) Campylobacter (D) Helicobacter (E) Bordetella (F) Brucella (G) Hemophilus

A) Vibrio : classificatⁿ

Gardner's & Venkataraman Ramakrishnan classifⁿ.





Vibrio

I)

Non-Halophilic

doesn't require salt
but can tolerate
salt upto 6%.

eg: V. cholerae

II)

Halophilic

req. salt.

eg: V. parahaemolyticus
V. vulnificus
V. alginolyticus

I) NON-HALOPHILIC Vibrios.

Vibrio cholerae:

Virulence factors:

* Cholera toxin $\rightarrow$ $\uparrow$ cAMP in inf. cells.

Clinical manifestⁿ:

Cholera $\rightarrow$ (i) Life threatening diarrhoea
(ii) Usually No fever

Dis:

(i) Microscopy:

* G/s.

$\rightarrow$ comma shaped, pink colored (GN) bacillus
Hel arranged $\rightarrow$ Fish in stream
arrangement



Fish in stream appearance
(11e) arrangement.

Hanging Drop method

- * To demonstrate motility
- * *Vibrio cholera* has Basting Motility

(ii) Culture:

TRANSPORT MEDIUM

* m/c used ^{transport} media is "SACHS BUFFERED GLYCEROL SALINE"



but it doesn't support *vibrio* & *Campylobacter*

So... "CARY BLAIR MEDIA" is used for " & "

(OR)

Autoclaved sea water

(OR)

VR (Ventakaraman Ramakrishnan) Media

↓ inoculated in

- Enrichment Media (bcoz stool sample has lot of commensals).



Alkaline peptone water

(OR)

Enrichment media

Mouse's peptone water → is always liquid

to inoculate in SELECTIVE media

* Selective med. for Vibrio is TCBS.

(Thiosulphate Citrate Bile salt Sucrose med.)



Yellow colored colonies are produced.
bcz Sucrose Fermentors produce Yellow ---
& Vibrio is also a sucrose fermentor.

(iii) ID

I) String Test : ⊕ve for all Vibrios

Step ①: Org. Suspension prepared



Step ②: Bile salt is added (0.5% sodium deoxycholate)



Step ③: suspension will become Turbid & Mucoid



Step ④: forms a "STRING" when we try to
lift it up with a loop.

II) Cholera Red. Reaction

⊕ve only for V. cholerae.

* cholera suspension produces.

Nitroso-indole compounds.

⊕ Conc. H₂SO₄

Red colour is produced

produced only by V. cholerae.

V. cholerae O1	V. cholerae O139.
Non Capsulated.	Capsulated
Severe form of cholera is produced	Mild form of cholera is produced.
All others are same for both O1 & O139	
O1 - present all over the world.	O139 is aka. Bengal's vibrio?
O1 is responsible for "PANDEMICS."	1st case → Chennai (1992).
> 1 country	& then spread to West Bengal causing pandemics EPIDEMIC only in India

so far 7 pandemics.

1st (6)

Last (7th)

Caused by V. cholerae O1 classical biotype

V. cholerae O1 ELTOR biotype

i) *V. parahaemolyticus* :

Clinical manifestation
 { Gastroenteritis
 Wound infection

Δsis :

(i) Microscopy :

- * GNB - pink colour but not fish in stream
- * Active motile
- * safety pin appearance on Bipolar staining

(ii) Culture :

* selective media : TCBS media

V. parahaemol. is a sucrose NON fermentor.
 so produces Green color colonies

* blood agar "WAGATSUMO" agar.

⇓
 produces Hemolysis, This
 is called Kanagawa phenomenon

* Salt Tolerance Test : → max upto 8% NaCl

↓
 above 8% growth is ⊖

(ii) V. vulnificus:

Clinical: Wound infection

Salt Tolerance Test: max upto 10% NaCl.

(iii) V. alginolyticus:

Clinical Manif.: Wound infection $\oplus$
Eye & Ear infections.

Salt Tolerance Test: more than 10% NaCl.