





# Diseases and their Causes

By Shashank Chaturvedi

**VIRUS-** means '*poison*' & is a connecting link between living and dead.

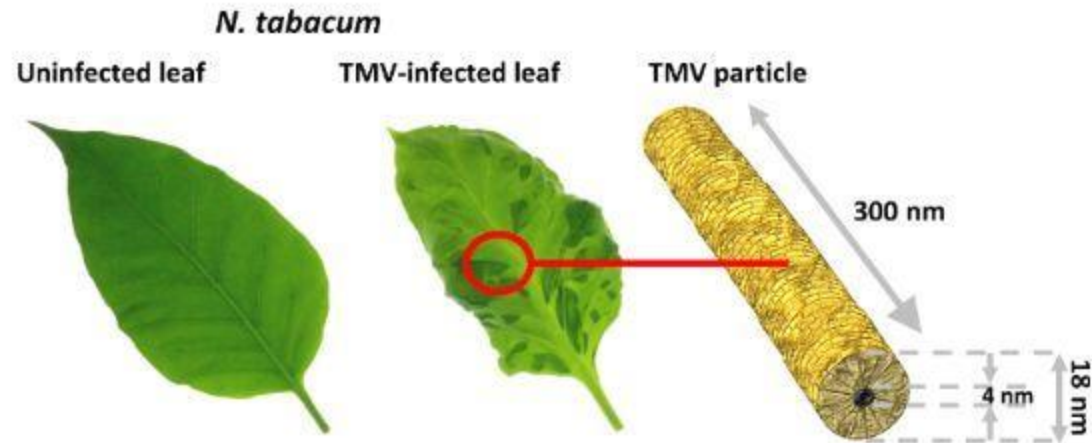
Discovered by Russian Scientist –IVANOVSKY/इवानोविसकी

Study of virus is called 'virology'

Crystallization of virus/वायरस का क्रिस्टलीकरण was done by Siamley in 1935 he won Nobel prize in 1942.

T.M.V. – Tobacco Mosaic Virus

# Discovery:



He contributed in the discovery of first virus from Tobacco mosaic virus. Ivanovsky reported in 1892 that extracts from infected leaves were still infectious after filtration through a Chamberland filter-candle.

HEPATITIS/हेपेटाइटिस – Hepta (liver/यकृत) + Itis (inflammation(सूजन))

Types :- A, B, C, D, E

Hepatitis A and C are most common because they are transmitted by (संक्रमित खून का बहना)infected blood transfusion (C) and contaminated food and water (A).

Hepatitis B is the most lethal and communicable.

TRANSMISSION/संक्रमण : Blood Transfusion/रक्त बदलना Infected Syringe Saliva/थूक  
Sputum

Direct contact with an infected person

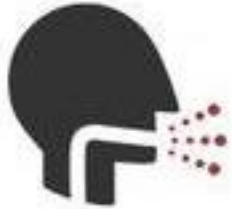
INTERPRETATION: HBsAG

ANTIBIOTICS- VACCINATIONS



# WHAT IS HEPATITIS **A**?

- 1 Hepatitis A is a highly contagious viral liver infection.



- 2 It is preventable by vaccine, and is caused by ingestion of fecal matter.

- 3 It might last for weeks up to months.



## WHAT ARE THE SYMPTOMS?

Jaundice



Nausea



Abdominal Pain



## HOW IS IT SPREAD?

Direct Contact



Infected Food



Sewage Contamination



**DENGUE FEVER (VIRAL DISEASE)**- caused by dengue virus which is transmitted by female 'Aedes aegypti' mosquito.

Mostly active during rainy season (sep-oct) affect blood platelets.

### **EBOLA FEVER**

It is the name of a river, which flows in Congo Republic in African Continent.

It originated in 1976 and returned in year 2014 (Aug) in Liberia (announced emergency), Guinea and Sierra Leone.

Caused by/कारण : EBOLA VIRUS

Carrier of EBOLA/संवाहक - Fruit Bats, pigs

Affected part/- Platelet Cells







INFLUENZA/श्लैष्मिक ज्वर ( Common Cold)  
second most communicable disease/दूसरी सर्वाधिक संचारी रोग

VIRUS: rhino virus

RHINITIS- spread through coughing and  
Sneezing/ खासने तथा छीखने

Also called 'BULLET DISEASE'

SWINE FLU:- originated from Mexico in 1978  
in India first came in Gurugram

At present 39 countries suffer from SWINE FLU

Primary host/ प्राथमिक संवाहक – Pig

Secondary Host – HUMAN (by coughing and sneezing)

TAMMYFLU was the ANTIBIOTIC used.

Occurs mostly in the month of                      September and  
October

HYDROPHOBIA/जलांतक -occurs due to rabies virus

AFFECTED PART- NERVOUS SYSTEM/ तंत्रिका-तंत्र

VECTOR- DOG

WOLF FOX

JACKAL BAT

MONKEYS CATS

TREATMENT/उपचार - Vaccination of 'ARV' (Anti Rabies Vaccine)

MEASLES/खसरा (childhood disease)

VIRUS – paraxymono

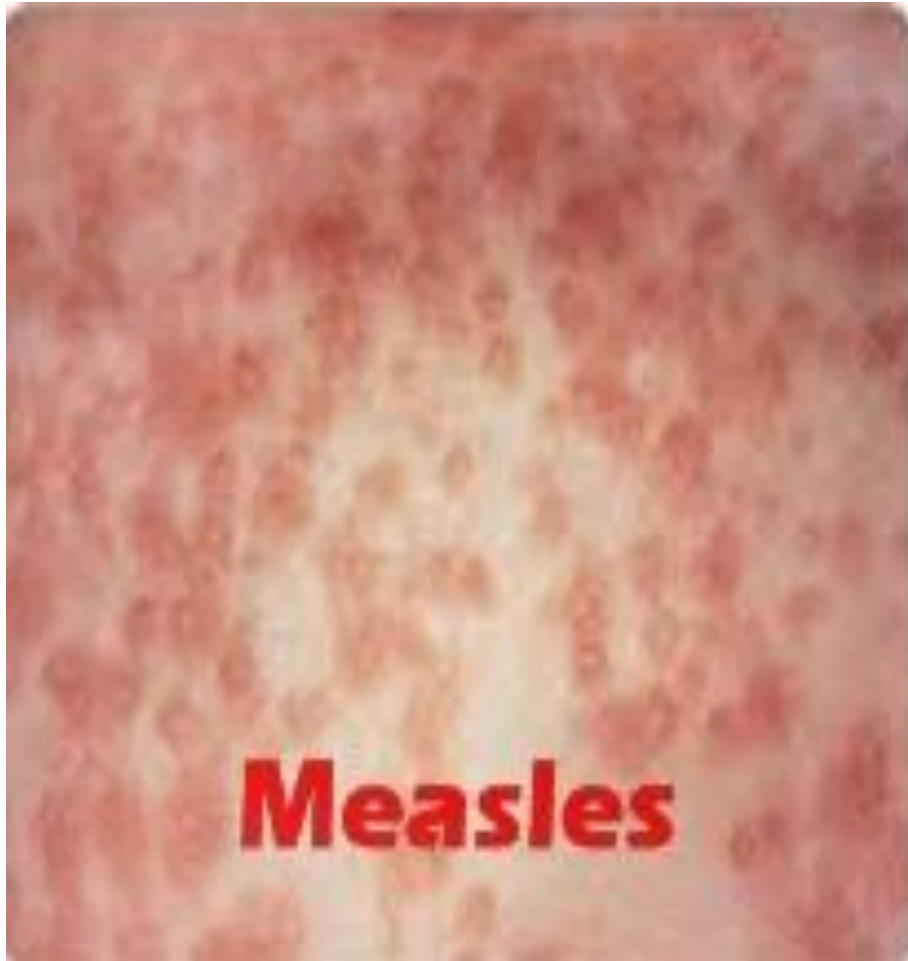
SYMPTOM/लक्षण - skin rashes

LATENT PERIOD – May and Sep.

MUMPS/गलसुआ (Childhood disease)

Tonsil swelling/गले में सूजन

VIRUS- rubella



## *ZIKA VIRUS* -1947, UGANDA

was first found in 'monkeys'

VECTOR- *Aedes aegypti* (Tiger Mosquito)

Affects foetus ( brain)/शिशु मस्तिष्क

Most affected country- Brazil

SYMPTOMS – fever, rash, joint pain and red eyes



## BACTERIAL DISEASES

Bacteria are Acellular organisms/अकोशकीय जंतु and are always living in atmosphere.

Bacteria was discovered/बैक्टीरिया की खोज by 'Antony Von Leeuwenhoek'

He also invented Compound Microscope and first living cell, 'sperm cell'/प्रथम जीवित सेल स्पर्म सेल

He is also known as the Father of 'Bacteriology.'

TYPHOID FEVER/आंत ज्वर

BACTERIA: Salmonella paratyphi

AFFECTED PART : Small Intestine/छोटी आंत

TRANSMISSION: Contaminated water

TEST: WIDAL TEST (72 hrs Test)

TUBERCULOSIS/क्षय रोग

BACTERIA: Mycobacterium tuberculosis

AFFECTED PART: Lungs and other organs/ फेफड़े

TRANSMISSION: by air, housefly(Musca domestica)/घरेलु मक्खी , sputum

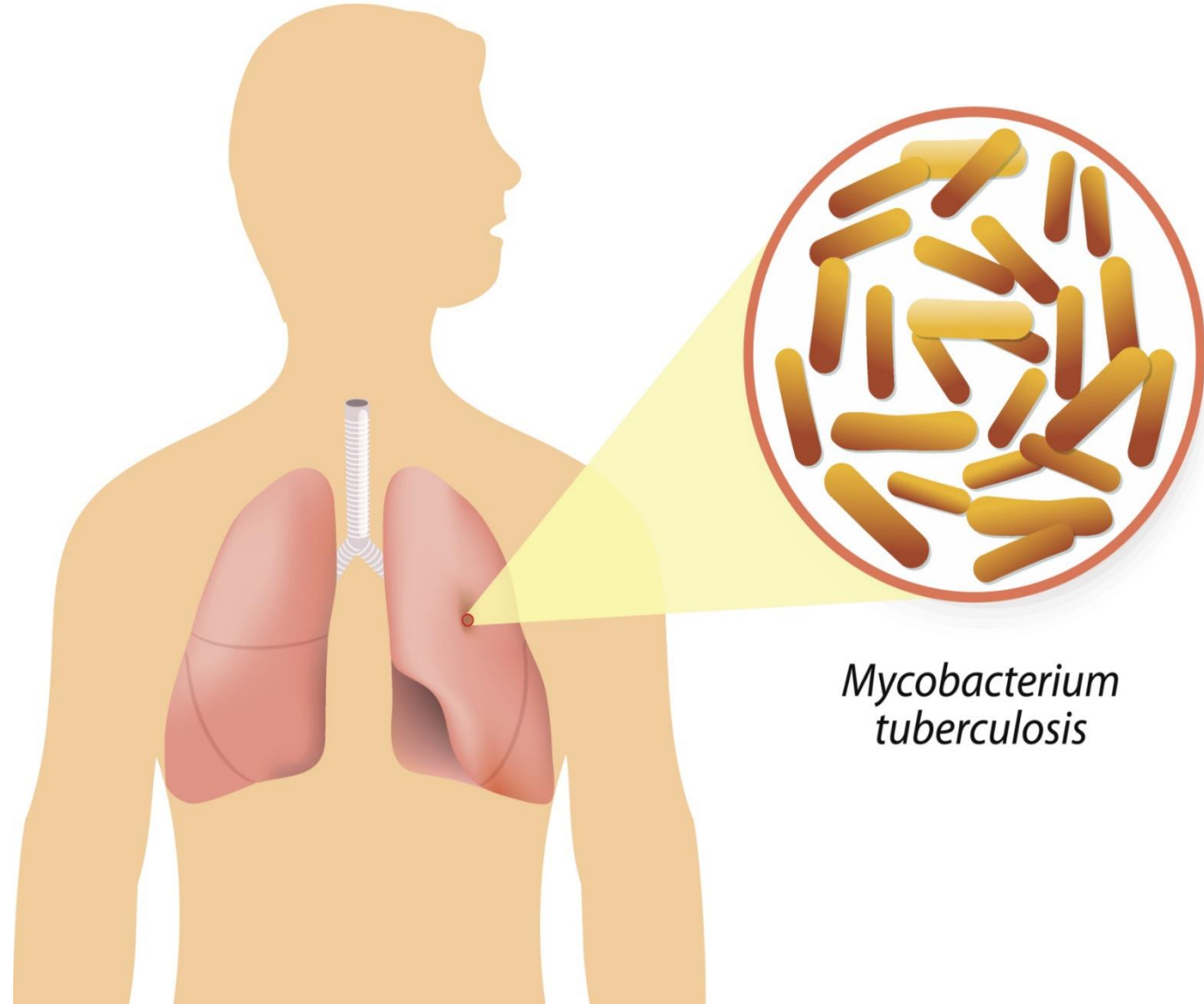
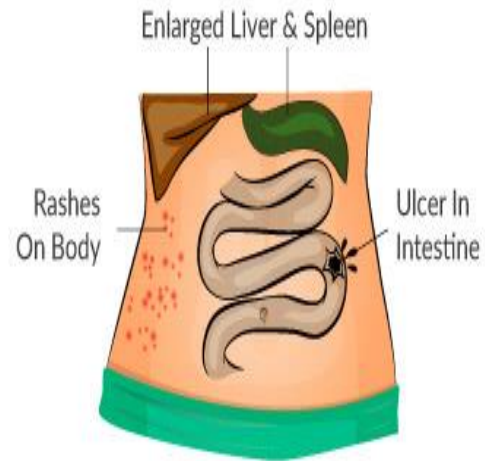
TEST: Tuberculin test

VACCINATION : B.C.G.

**DOTS(W.H.O. Mission)- free of cost 6 months treatment for TB.**

# TUBERCULOSIS

## TYPHOID FEVER



LEPROSY/कुष्ठ रोग(contagious disease)

BACTERIA : Mycobacterium leprae

AFFECTED PART/प्रभावित एरिया : skin and nervous system (loss of sensitivity)

TRANSMISSION: person to person by touch Found under nails

TREATMENT/उपचार : M.D.T ( Multi Drug Therapy)

## CHOLERA( Epidemic Disease)

BACTERIA :            Vibrio comma

SYMPTOMS:            VOMITING and LOOSE MOTIONS/पेट खराब

AFFECTED ORGANS:            Stomach and Small Intestine/पेट तथा छोटी आंत

TRANSMISSION:    Contaminated Food ( during  
Summer Season)

## ANTHRAX

BACTERIA :  
: Bacillus anthracis

AFFECTED PART / प्रभावित हिस्सा : Neck  
(formation of false membrane in front of neck.)

TRANSMISSION: By air

VACCINE: Triple ANTIGEN  
Vaccine DPT

## DIPHTHERIA

BACTERIA:-Corynebacterium diphtheriae  
AFFECTED PART : LUNGS AND SKIN/ फेफड़े एवं त्वचा

TRANSMISSION / संवाहक : SHEEP  
Used as biological weapon by Al-Qaida in 2001

## WHOOPING COUGH

BACTERIA : *Haemophilus pertussis*

AFFECTED PART:  
Respiratory System

TRANSMISSION: by air

VACCINATION : DTaP  
(children), Tdap (adults)

## PNEUMONIA

BACTERIA :  
*Streptococcus pneumoniae*

AFFECTED PART:  
Lungs (breathlessness)

Highly moisture dependent disease (sept- oct) transmitted by air

VACCINATION : PCV, PPV



TETANUS/टिटनेस (lock jaw or bow shaped disease)

BACTERIA : Clostridium tetani

Bacteria often enter the body through a puncture wound, caused by nails, splinters, insect bites, burns, any skin break

TREATMENT : ATS (Anti Tetanus Serum; from horse)

LATENT PERIOD: within 24 hours vaccination must be done (2 ml.)

PLAGUE/प्लेग महामारी (Epidemic Disease)

LATOOR, Maharashtra ( most affected in the world)

BACTERIA : *Pasturila pestis*

AFFECTED PART: Lymph nodes/लसीका ग्रंथि

SYMPTOMS : High fever, Conjunctivitis

VECTOR : RATS ( parasite of rat called 'pissu')

## FOOD POISONING/विषाक्त भोजन

BACTERIA: Clostridium perfringens

AFFECTED PART: Stomach/ पेट

Due to peas, pulse, (rich in starch)

High temperature

PROTOZOAN DISEASES/प्रोटोजोआ रोग protozoas are unicellular organisms (Amoeba, Paramecium, Euglena)

### MALARIA/मलेरिया

PARASITE : Plasmodium parasite/प्लासमोडियम (Complete their primary lifecycle in mosquitoes and secondary in human.)

\*Most infectious stage of protozoa is Sporozite. Malarial parasite releases a toxin known as 'Hemozoin'/हेमोजिन

Contaminated air is its means

Malaria fever is transmitted by , 'Anopheles' mosquito /अनाफेलेस मच्छर

AFFECTED PART: R.B.C.s , Spleen प्लीहा (graveyard of RBC'S) Anti- malarial Drug : Quinine कुनैन (cinchona tree)/सिनकोना

KALA AZAR:

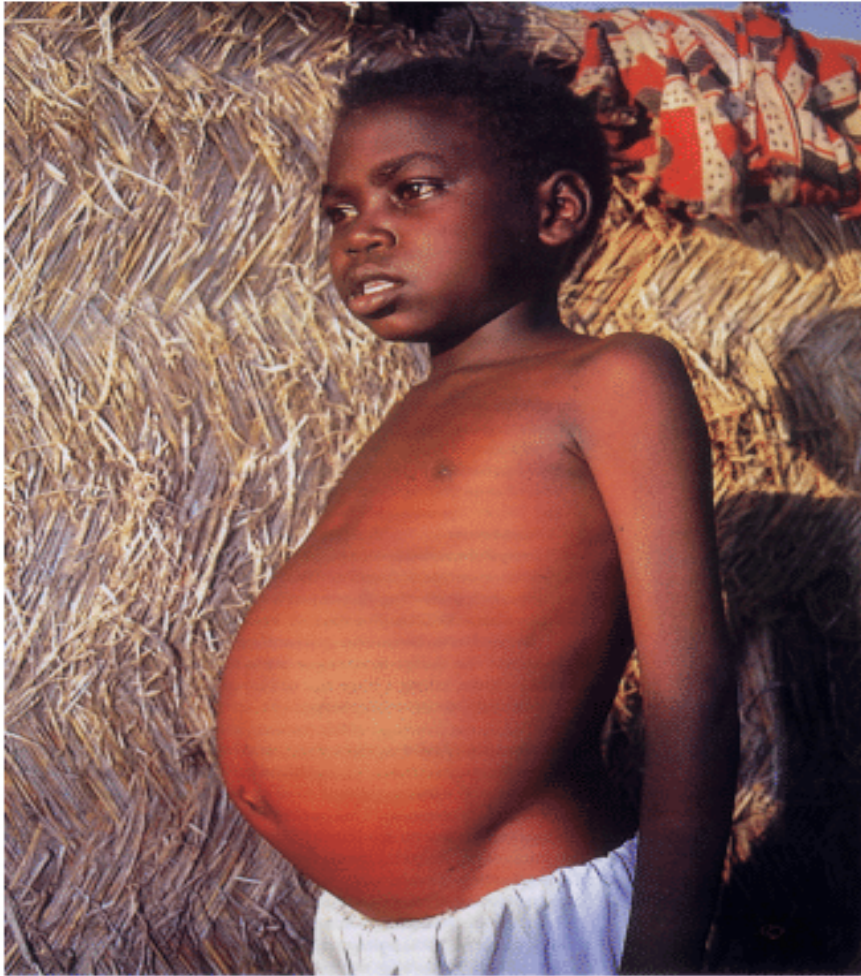
Still present in Bihar in the vicinity of Kosi river/कोसी नदी के किनारे  
In Africa it is also called dum-dum fever/दम दम बुखार

Protozoan parasite : of Leishmaniasis genus

AFFECTED PART: R.B.C's

VECTOR: Sand fly

# Visceral leishmaniasis, Kala Azar, or dum dum fever



Kala azar was also called dum-dum fever, after a military station in the outskirts of Calcutta.

**Symptoms** are a **low degree of fever** with **hepatosplenomegaly** and severe progressive **cachexia (wasting)**, **swollen lymph glands**, **leucopaenia**, **thrombocytopaenia** with relative **monocytosis** and **loss of hair**. The parasites (*Leishmania donovani*) are mainly found in **bone marrow**, **liver** and **spleen**. If left untreated this manifestation of leishmaniasis is fatal in more than 90 % of cases.

## SLEEPING SICKNESS

Also known as African trypanosomiasis

PROTOZOA: Trypanosoma/त्रिपनोसोमा

AFFECTED PART: Brain/मस्तिष्क

SYMPTOMS: sleep disorder, abnormal tone and mobility/चाल

VECTOR: Tse- Tse fly



FUNGUS/कवक :

is a multicellular saprophyte/बहुकोशकीय मृतजीवी.

E.g. mushroom, yeast, bread moulds.

cell wall of fungi is made of 'chitin.'

Study of fungus is called 'Mycology.'

RINGWORM (fungal disease)

FUNGUS/कवक : Tricophyton rubrum

AFFECTED PART: Skin

Caused by blade fillers used by barbers.

/नाइ के द्वारा उपयोग किये जाने वाले ब्लेड के कारण

DANDRUFF and BALDNESS/गंजापन are also caused by fungal infections.



SCABIES: (Sarcoptic mange)

Caused by : ITCH MITE

Scabial lotion is used to prevent it from further continuation.

Dermatitis also known as eczema is an inflammation of skin/ त्वचा में सूजन , it is also a fungal infection.