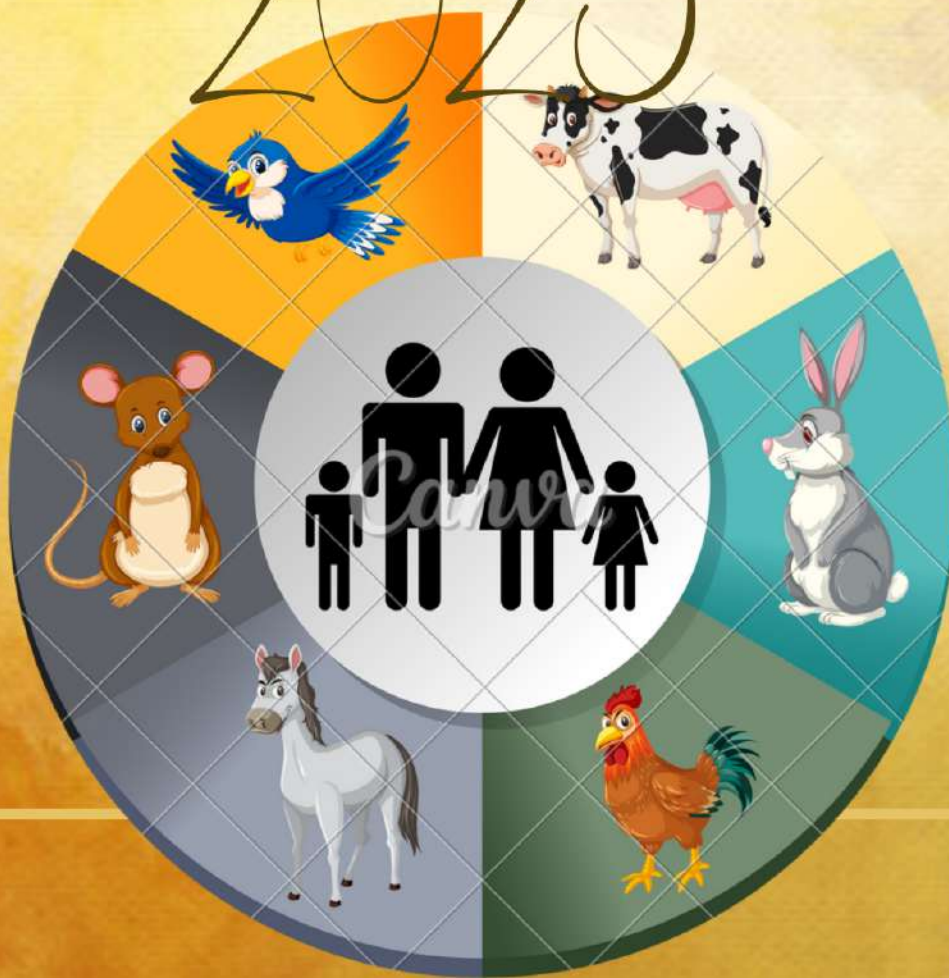


World Zoonoses Day, 6th

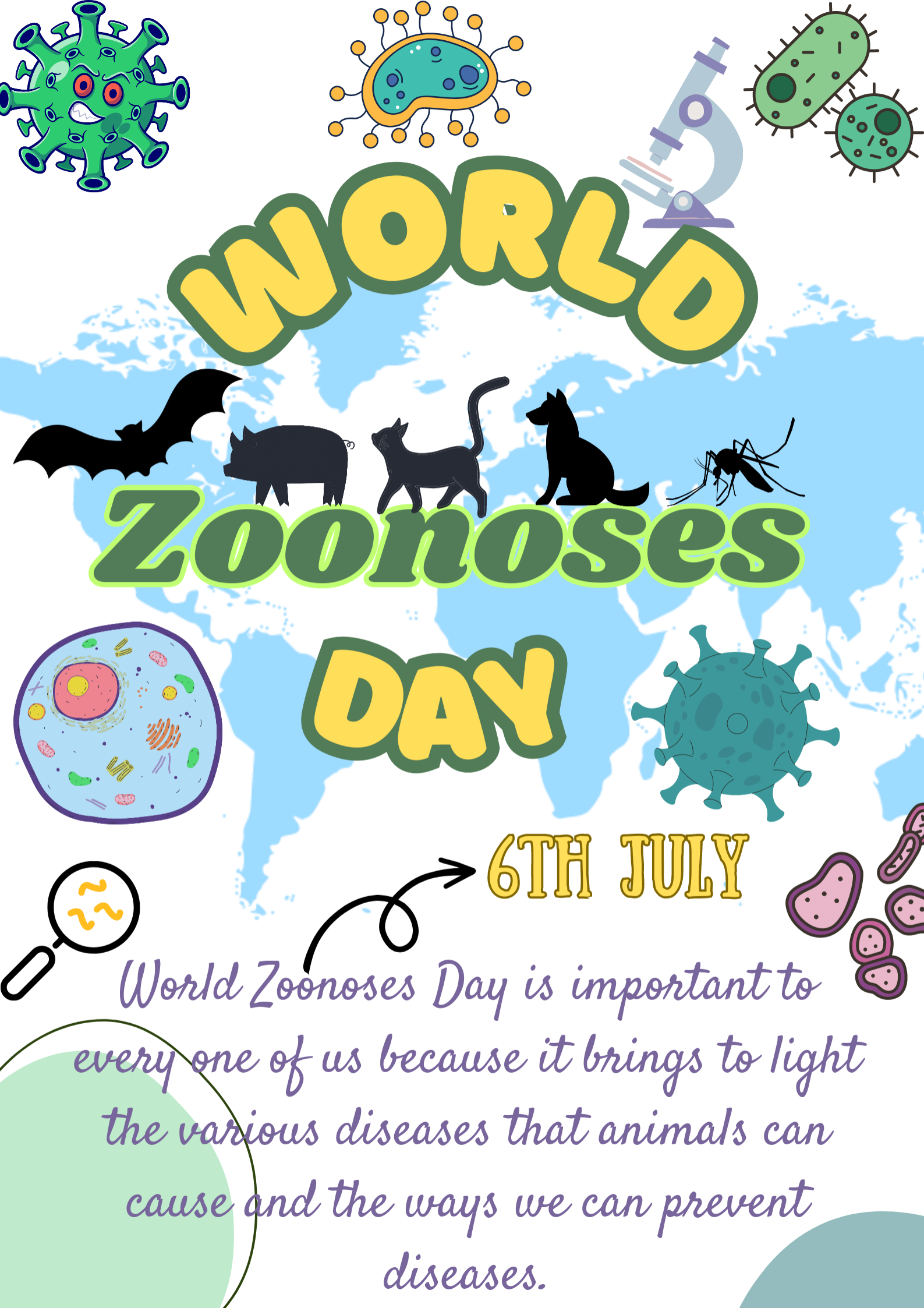
July 2023



An awareness
initiative by
Dept. of Zoology.
Barasat Govt.
College



Our Students of
Department of Zoology, aimed to boost
up the level of knowledge and of
awareness about Zoonoses by
submitting short articles to
know more about Zoonotic diseases



WORLD

Zoonoses

DAY

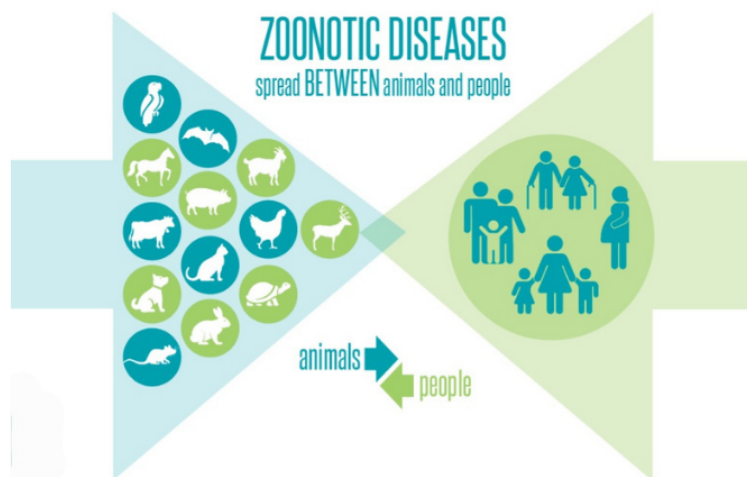
6TH JULY

World Zoonoses Day is important to every one of us because it brings to light the various diseases that animals can cause and the ways we can prevent diseases.

ZOONOTIC DISEASES

-Tanisha Nowrin UG sem4

The human-animal relationship dates back to 15,000 years ago and has been evolved since then. Be it a beneficial relationship or a relationship that conveys love every human is in contact with animals in one way or another. This relationship paves a way for diseases to reach humans or animals and such a disease is called a zoonotic disease. The term “zoonotic disease” refers to a disease or infection that can be transmitted from humans to animals or from animals to humans. About 60% of pathogens are zoonotic in origin and includes a variety of fungi, bacteria, parasites and other pathogens.



World Zoonoses Day is celebrated worldwide on 6th July as this day commemorates the great French biologist, Louis Pasteur, who in 1885, successfully administered the first vaccine against a zoonotic disease. The term “zoonoses” originated from Greek word “zoon” which translates to animal and “nosos” which means illness. Zoonoses is not only concerning and human health hazard but may even lead to death if not handled carefully.

CLASSIFICATION OF ZONNOSES

Based on etiology, zoonoses are classified as follows:

1. Bacterial zoonoses
 - Includes plague, anthrax, Lyme disease, salmonellosis, tuberculosis and brucellosis.
2. Fungal zoonoses
 - Includes ringworm.
3. Viral Zoonoses
 - Includes rabies, AIDS, avian influenza and Ebola.
4. Parasitic Zoonoses
 - Includes trichinosis, toxoplasmosis, trematodosis, giardiasis, malaria, and echinococcosis.
5. Rickettsial zoonoses
 - Includes Q-fever.
6. Chlamydial zoonoses
 - Includes psittacosis.
7. Mycoplasma zoonoses
 - Include Mycoplasma pneumonia infection.
8. Protozoal zoonoses
9. Acellular non viral pathogenic agents
 - Includes transmissible spongiform encephalopathies and mad cow disease.

Depending on the ecosystem in which it circulates, zoonotic diseases are divided into the following categories:

1. Synanthropic zoonoses
 - An urban (domestic) cycle in domestic and synanthropic animals.

Examples include urban rabies and zoonotic ringworm.

2. Exoanthropic zoonoses
 - Usually accompanied by a sylvatic (feral and wild) cycle in natural foci outside human habitats.

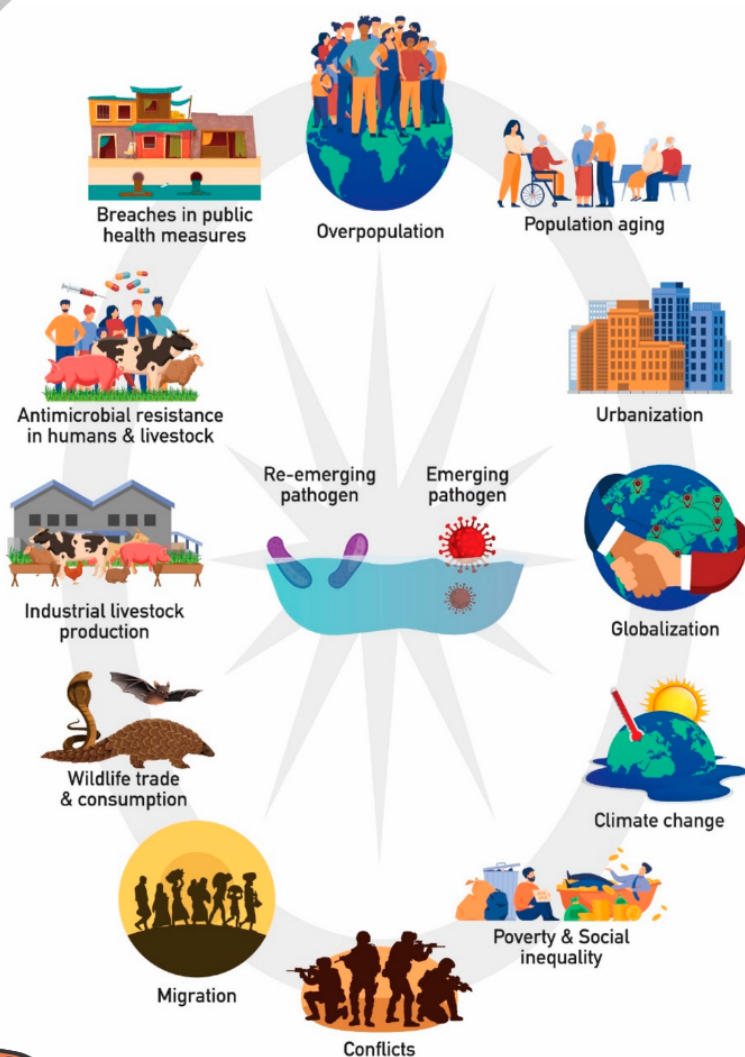
Examples include arboviruses, Lyme disease, wildlife rabies.

EMERGING AND RE-EMERGING ZOOONOSES

Emerging zoonoses is newly recognised, newly evolved or has previously occurred but shows an increase in expansion or incidence in geographical, host or vector range.

There are several factors that acts for the emergence of zoonotic diseases, these factors are: changes in human and animal behaviour, ecology, habitat, livestock production system, food safety, vector biology, pathogen adaptability, climate change and deforestation.

For emerging and re-emerging zoonotic diseases close contact of humans with animals which act as reservoirs and wildlife plays a major role.



Examples for re-emerging zoonosis includes rabies, brucellosis, tuberculosis, Japanese encephalitis etc.

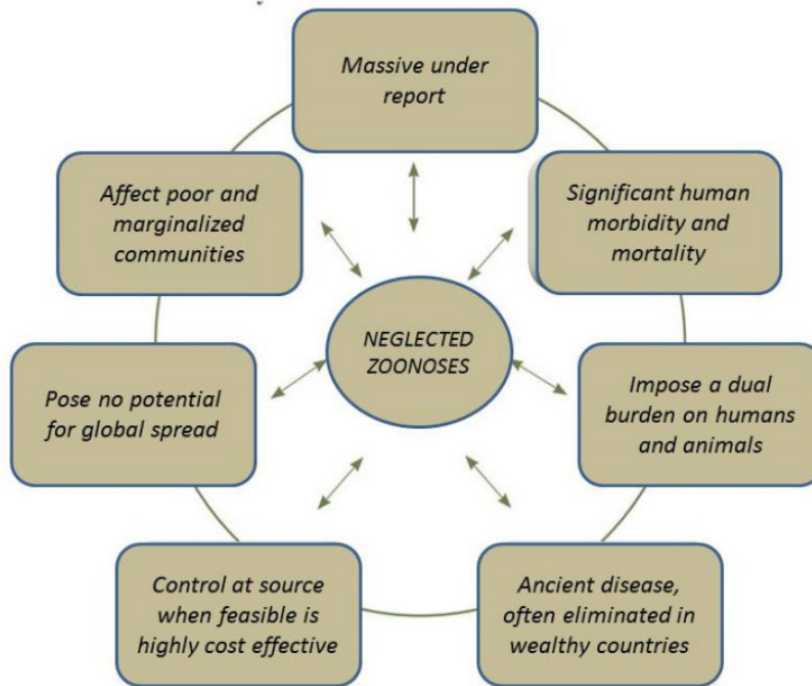
Examples of major emerging zoonoses includes avian influenza, feline cowpox, rotavirus infection, norovirus infection, Ebola etc.

NEGLECTED ZOONOSIS

There are several zoonotic diseases which remain neglected due to their effect only in the endemic area which negatively impacts the livelihoods of poor people along with their health conditions. They tend to be under reported and have been largely neglected by many as compared to emerging and re-emerging zoonosis.

That supports the reason why they are considered as neglected zoonosis.

Zoonotic diseases that have been considered neglected includes taeniasis and echinococcosis in Asia, Latin America and Africa, rabies in Asia and Africa.



CONTROL OF ZOONOSES

As zoonosis possess a serious threat to international community, a multi-sectorial approach is required to ensure effective control measures. To prevent and control zoonotic diseases, surveillance play a crucial role as it can be used to detect the affected humans and animals, reservoirs, vectors, endemic areas including the “hotspots” and most importantly their early detection.

All the animals birds that are exotic, pet and companion animals, even aquatic animals, wildlife and rodents that are potential sources of zoonosis should be subject to surveillance.

There should be issuing of laws and regulations for the control of zoonosis. Establishment of strong and effective disease reporting systems, public awareness, health education, mass media and electronic information system and communication through any channel can help and play a significant role in increasing public awareness which is a necessary key to control zoonosis.

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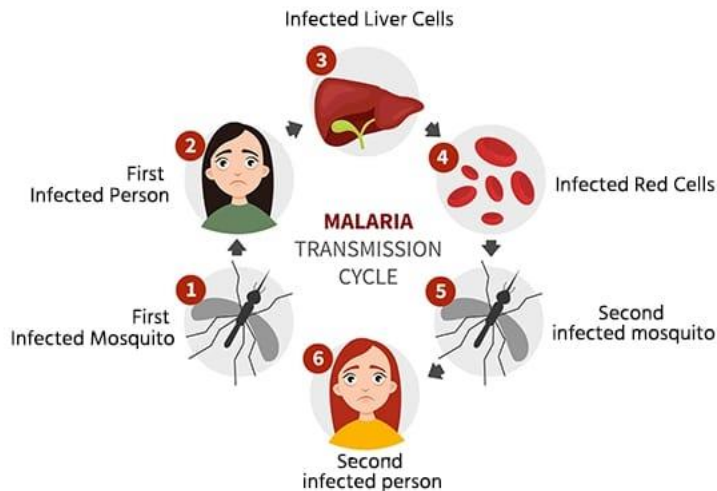
Malaria

" Time to deliver zero malaria: invest, innovate, implement "

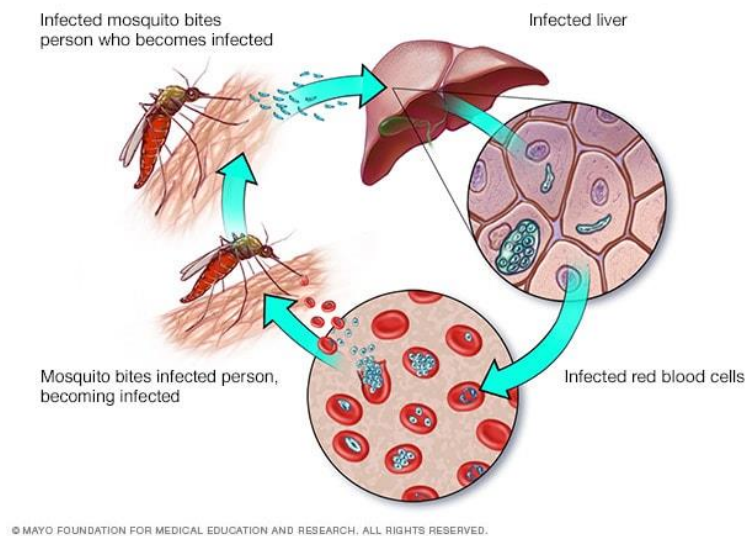
Sharanya Chatterjee (UG Sem 4, Zoology Honours)

In the endemic countries, the specialists are recognizing malaria as a leading cause of mortality as it affects about 500 million people worldwide. Africa represents 90% of the global malaria burden and 1000 cases of malaria are diagnosed in USA each year.

Malaria is caused by four species of protozoan plasmodium ~ *P. falciparum*, *P. vivax*, *P. ovale* and *P. malariae*. *P. falciparum* is the most virulent and most prevalent of these protozoan species. There are some common symptoms like shaking chills, fever, headache, muscle aches, tiredness and nausea. In some cases, vomiting and diarrhoea also occur.



Infection is initiated when sporozoites are inoculated into the blood stream by the bite of an infected female anopheles mosquito. The female anopheles mosquito serves as the biological vector for malaria and a part of the parasite's life cycle occurs in it. Once sporozoites leave the blood stream, they enter the liver within half hour. Inside the liver cells, they multiply and result in the formation of the next stage in the life cycle, merozoites. Merozoites then enter into the red blood cells and transform to a large uninucleate, trophozoite. Some merozoites differentiate into male and female gametocytes which are ingested by the female anopheles mosquito during the mosquito bite and the gametocytes form gametes which fuse to form a zygote. Immature sporozoites develop in the mosquitoes within 2 weeks and travel to the salivary glands where they mature and become infective.



Through a blood smear test or a rapid diagnostic test (RDT), where the antigens released by malarian parasites can be detected, malaria is diagnosed.



Quoniles (quinine, chloroquine), Antifolates (sulphadoxine, pyrimethamine) are known drugs which can be used in malaria treatment. Tetracycline and Doxycycline are commonly used antibiotics.

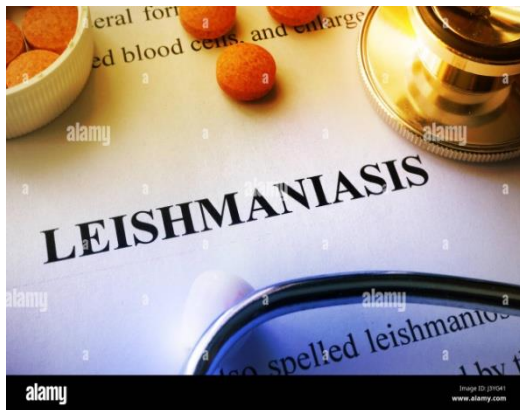
The studies on vaccine development against malaria has become theoretically correct but not effective in practical result. *P. falciparum* vaccines which is in the trial process includes SPf66 vaccine. The MuStDO9 vaccine contains five plasmids encoding nine different malarial antigens but it has not been tested in humans yet.

Leishmaniasis

-A neglected zoonotic disease

~By Sayan Halder

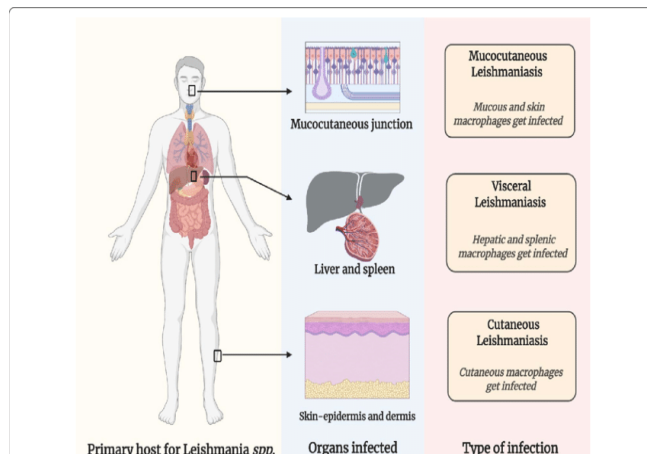
UG sem-IV, zoology(H).



Leishmaniasis is a parasitic disease which is found in many parts of the tropical, subtropical, and southern Europe. Classified as a neglected tropical disease (NTD), leishmaniasis is caused by an infectious protozoan *Leishmania*, which are spread by of sand flies(*Phlebotomus papatasi*) bites.

There are 3 main forms of leishmaniasis:

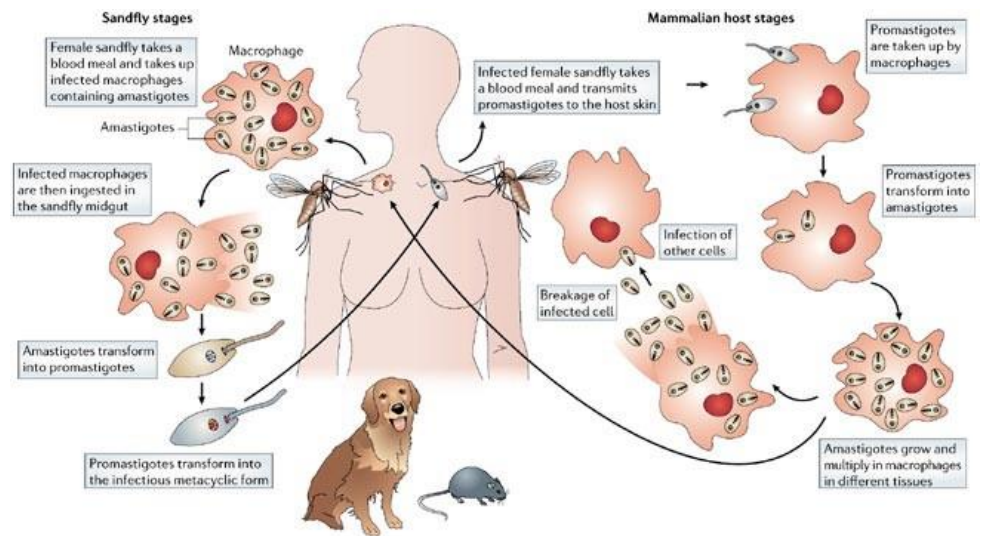
1. Visceral leishmaniasis- Also known as systemic leishmaniasis or kala azar, it causes damage to internal organs and bone marrow and causes immune suppression. Symptoms include anemia, infection, swollen lymph nodes and liver, bleeding, weakness etc. It is fatal if untreated.



2. Cutaneous leishmaniasis- It causes on ulcers and infection the skin and is the most common form of leishmaniasis. Treatment may not always be necessary depending on the person, but it can speed healing and prevent complications. The symptoms may appear weeks or in rarely cases months after bite.

3. Mucocutaneous leishmaniasis- It is considered a subset of cutaneous leishmaniasis, but is more serious. It occurs

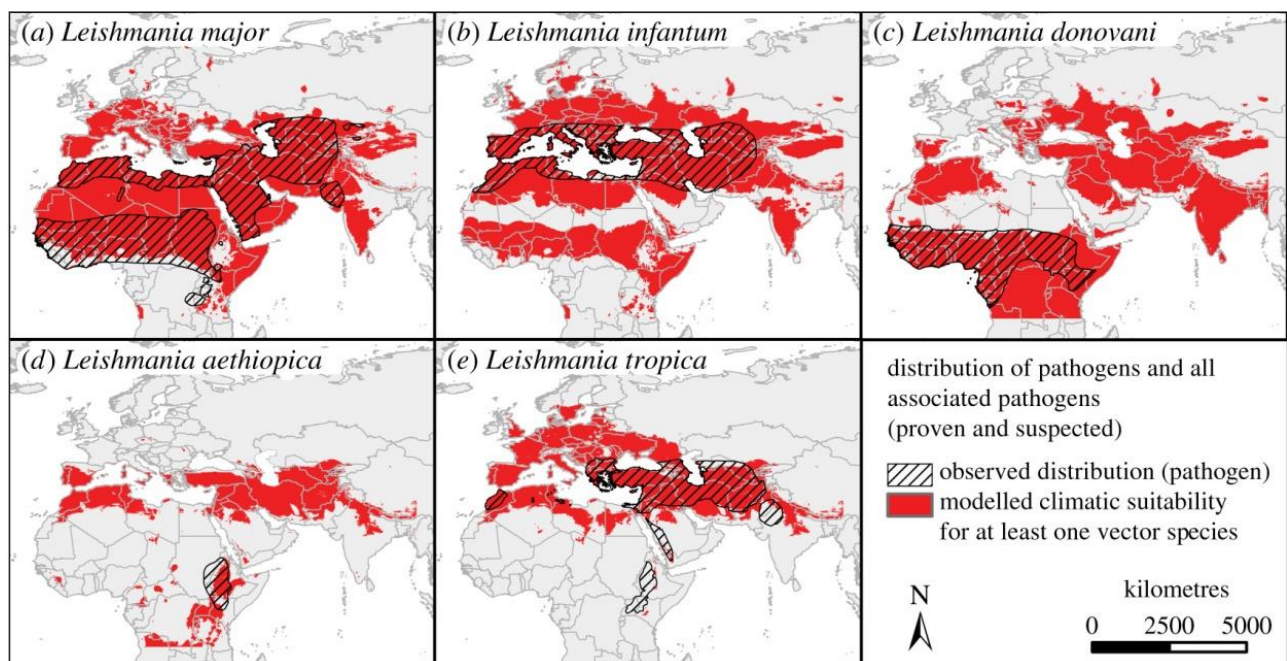
after one to five years of skin lesion. In this, the parasite affects nose, throat, mouth. It causes destruction of mucus membrane and causes bleeding, running nose, difficult bleeding. Medical attention is needed.



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Diagnosis and treatment

Leishmaniasis is diagnosed by detecting *Leishmania* parasites (or DNA) in specimens like skin lesions, bone marrow, mucus—via light-microscopic examination of stained slides. “**rK39 immunochromatographic test**” is a latest rapid test that gives 92% accurate results. “**Letifend**” is a veterinary vaccine for dogs to protect them against leishmaniasis. Intravenous liposomal amphotericin B (L-AmB) for VL and oral miltefosine for CL, ML, and VL can be used for treatment.



How Zoonotic Diseases Transmitted :

Aerosol

Occurs when droplets are passed through the air from an infected animal and are breathed in by a person. Most exposure occurs when droplets are created from birthing tissues (placenta, birthing fluids) contaminated with feces, urine or bacteria and a person breathes in the dust particle.

Oral

Occurs by ingesting food or water contaminated with a pathogen. This can occur if animal products, such as milk or meat are not pasteurized or cooked properly. Eating or drinking after handling animals without washing your hands could also lead to oral zoonotic diseases transmission.

Direct contact

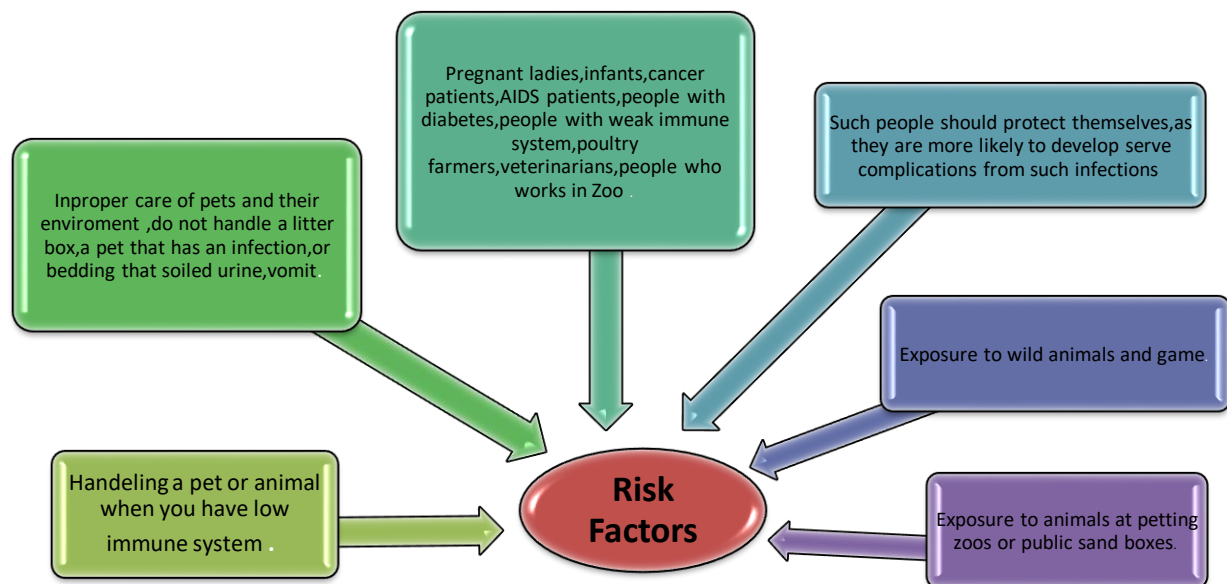
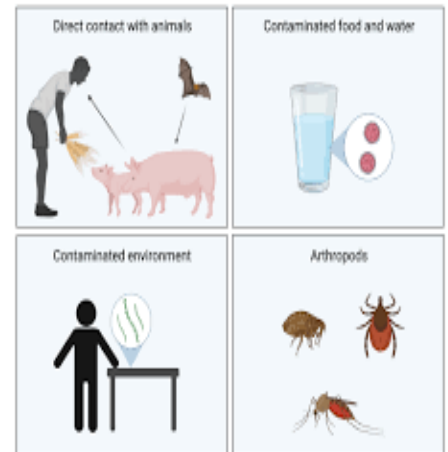
Requires the presence of a pathogen in the environment or within an infected animal. A person becomes exposed when the pathogen directly touches open wounds, mucous membranes or the skin.

Vector

Occurs when an insect acquires a pathogen from one animal and transmits it to a person,

Fomite

A fomite is an inanimate (non-living) object that can carry a pathogen from an animal to a person. Examples of fomites include contaminated obstetrical chains, brushes, needles, clothing or bedding.



Impact of Zoonoses on human health and economy:



- Many of the diseases cause serious illness and high mortality in man
- The effects of febrile illness include
- Loss of work capacity
- Loss of earnings
- Clinical complications
- Interference with patterns of family
- Zoonosis also undermine animal health and productivity ,reducing the production of food as well as the work output of draught animals.
- The presence of animal diseases in an area may prevent human habitation.
- They reduce the available supply of needed food,specially high protein food.
- The economic costs incurred in the controlos zoonotic diseases in animals are often huge and are additional to medical costs and loses in human work.
- The importance of animal production by diseases force many countries to import milk,meat ,leather,wool and other animal products.this drains foreign exchange needed for development.

Prevent the spread of Zoonotic Diseases:

Personal Hygine

1. wash hands before and after animal handelimg.
- 2.do not eat or drink animal housing area
- 3.avoid handelling sick animals
- 4.wear gloves when cleaning animal area
- 5.if you are sick dont enter agricultural facilities.

Use Biodiversity Meausers

- 1.fence in animals area
- 2.separate animals area from your family home ,human and foods.
- 3.do not leave water hoses lying on the ground on animal area
- 4.reduce visitor contact with animals

Practice Food safety

- 1.Do not consume unpasteurized milk and milk products
- 2.properly refrigerate and handle uncooked meats ,eggsand fish
- 3.cook meat ,fish properly

The precautions when handeling and caring animals

- 1.wear boots ,gloves,and protective clothing
- 2.remove the cloths before entering household
- 3.keep all protective cloths separate

Herd /Flock maintenance

- 1.observe animals for health stutes on daily basis
- 2.note health problems like diarrhea,depression etc
- 3.isolate effected animals

use flea and tick preventions and vaccines

- 1.fleas and ticks can carry variety of infections that transmitted animal to human
- 2.do proper vaccination to prevent rabbies

TOXOPLASMOSIS IN INDIA

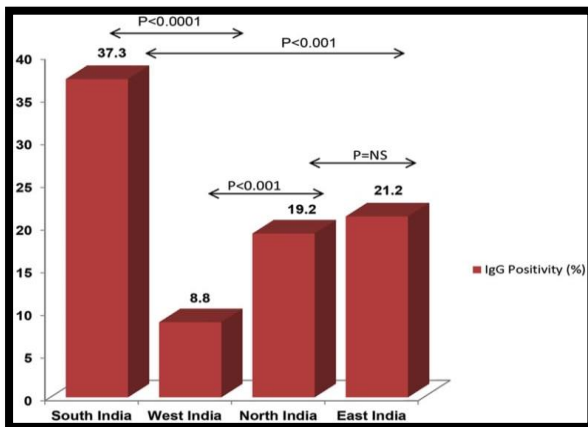
Basusri Dandapat, SEM IV, Department of Zoology, Barasat Govt. College

One fortunate day, for the betterment of the world, the first Rabies vaccine was administered by Louis Pasteur, a French biologist, on July 6th 1885. Since then, World Zoonoses Day was initiated to educate and aware people all about the zoonotic diseases and their effect on the animal world.

Among the 1407 pathogens affecting humans, 816 are zoonotic. Our topic of discussion is mainly about toxoplasmosis which is one of the most common zoonotic disease prevalent in the world with a special mention of the extend of its effects in India.

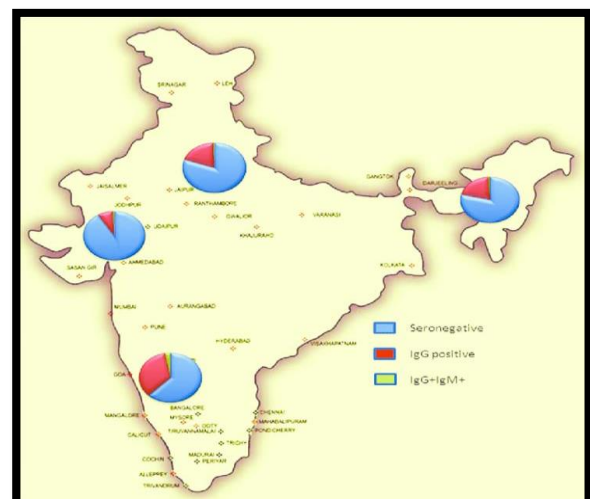
Toxoplasmosis is caused by the parasite (one celled) *Toxoplasma gondii*. This parasite mainly cause damage in the retina and is transmitted through the faeces of some feline animals and through the raw meat infected with the cyst of *T. gondii*. Several outbreaks of this disease through

waterborne and food borne ways have been observed. A wide array of prevalence of this disease has been observed in India. Through seroprevalence it was reported that

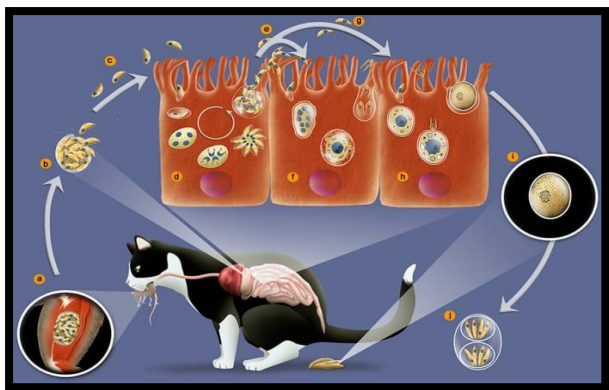


the prevalence rate can be from 22.4% with a range of 8.8% to 37.3%. A more concerning fact was reported in a study in 2004 according to which there was a 45% seroprevalence rate and less than 3% incidence rate among the pregnant women of North India. Recently there is an increase in number of children at of it in India. About 56,737 to 176,882 children are born with the risk of congenital toxoplasmosis in India.

Behind this degree of growth in India certain socio-demographic factors play great role. Most of the women infected by this parasite belong from lower segment of the middle-class group. As a direct result of economic instability majority of women in South and East India live in mud plastered homes and use water from the tube well or the hand pump which is an easy source of the infection. They also employ in works such as housekeeping. The intaking of raw salad in very common in India as a result it acts as an easy medium for the parasite to spread.



Most of the households have cats as the pet. The faeces of these animal are also the reason behind this zoonotic disease. A wide difference in the prevalence of the disease is also observed between South and West India as the climatic conditions and the habits such as walking barefoot push the south Indians more to get infected by the parasite.



So, we can well understand the severity of the disease in India and we must be concerned about it. At the same time take certain preventions to avoid this disease from coming into our lives. We must not drink or eat food that are untreated, walk with shoes, must use gloves with dealing with activities related to soil, wash hands and utensils thoroughly and of course meat

should be cooked properly. Awareness programs should be arranged to educate the people living in negligence.

We can only be the reason behind lowering the number of people being affected and move toward a better life.

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RABIES: A ZOO NOTIC DISEASE

**Tista Das, UG Sem-6, Department of Zoology,
Barasat Govt. College**

Rabies, also called hydrophobia or lyssa, is a zoonotic viral disease of the CNS (Central Nervous System) that is usually spread among domestic animals (like dogs, cats etc) and wild carnivorous animals by a bite or scratch. All warm-blooded animals, including humans, are affected to rabies infection. Rhabdovirus is present in the salivary glands of rabid animals and is discharged in saliva; then, the bite of the infected animal introduces the virus into the fresh wound.

How is Rabies Transmitted?

The rabies virus is transmitted between animals, and between animals and humans, through close contact with infected saliva from rabid animals, generally through bites, scratches on broken skin and mucous membranes. Rabies transmission to humans mainly occurs following a bite by an infected dog; even if dogs are involved in up to 99% of human rabies cases, cats represent a significant risk of transmission as well. Wildlife populations often serve as a career and storage for the rabies virus and can infect our domestic animals. Raccoon, dogs and foxes are the main wildlife storage in Eastern Europe; jackals and mongooses in Africa and Asia; raccoons, hunks and bats in North America; mongooses in Puerto Rico and Caribbean islands and raccoon dogs in South Korea and possibly other countries in the region.

Humans can be infected through contact with rabid animals or through their infected pets.

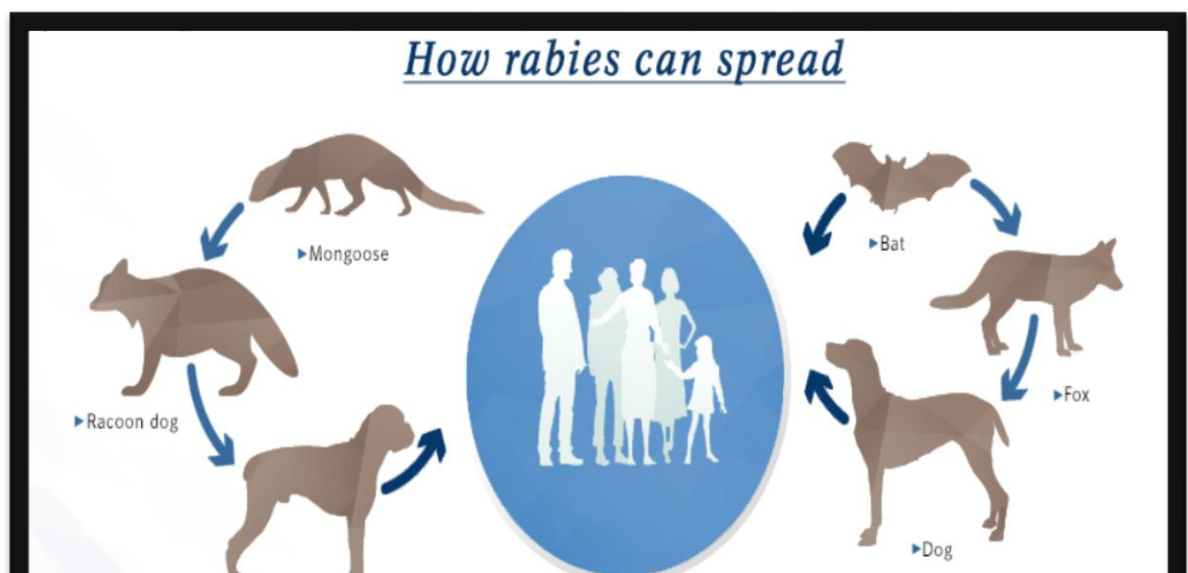


Fig: Transmission of Rabies Virus through many animals along with human

Symptoms:

Rabies is almost always fatal to both animals and humans. In animals, the most reliable signs of rabies are acute behavioral changes and unexplained progressive protection, they may show signs of aggressive behavior and lethargy and paralysis. In humans, the first signs of rabies may include headache, fever, anxiety and sensitivity near the site of animal bite. Hallucinations and hydrophobia are also occurred.

Rabies's effect in India:

Our country, India endemic for rabies. In India about fifteen million people are bitten by animals, mostly dogs, every year and need post exposure protection. Since 1985, India has reported an estimated 25,000 to 30,000 human deaths from rabies annually. The majority of people who die of rabies are people of poor society. Because rabies is not a notifiable disease in India and there is no organized surveillance system of human or animal cases, the actual number of deaths may be much higher.

Treatment:

If a person is suspected of having been in contact with an infected animal, early intervention may prevent the disease. The first step is to apply local wound treatment immediately: carefully wash and flush the wound with water and soap for about 15 minutes. Then, apply proper treatment such as 70% alcohol/ ethanol, tincture or iodine solution if available. Delay suturing the wound for as long as possible.

A doctor must be contacted immediately and will decide to apply a post-exposure treatment, or preventive medical treatment, to prevent rabies from developing in humans. The veterinarian will execute the appropriate follow-up of the animal suspected of rabies.

Rabies prevention requires global community efforts. We all should join in the awareness mission against rabies virus and together make a protective shield against the rabies virus.

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WAY FORWARD IN COMBATING TRICHINELLOSIS IN INDIA

BY ANUSHKA GHOSH, UG SEM 6(2020-23), DEPT OF ZOOLOGY, BARASAT GOVT. COLLEGE

Zoonotic disease means a disease that passes from animals to humans. There are many zoonotic diseases, but we will discuss about TRICHINELLOSIS, that is caused by nematode worms, *Trichinella spiralis*. It occurs due to ingestion of raw, improperly cooked meat of domestic pigs and wild boar.

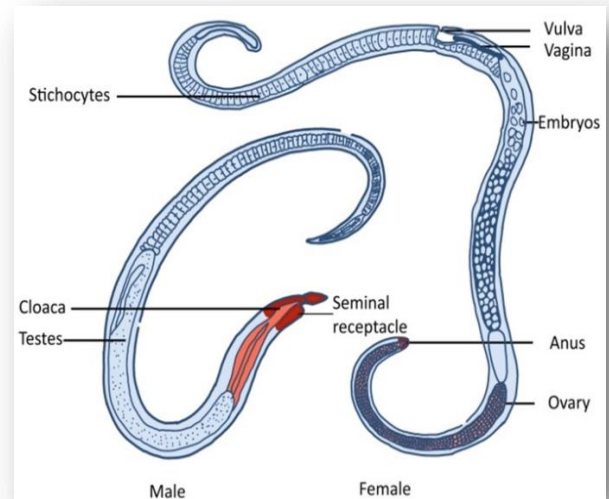


Fig: Morphology of adult male & female of *Trichinella spiralis*

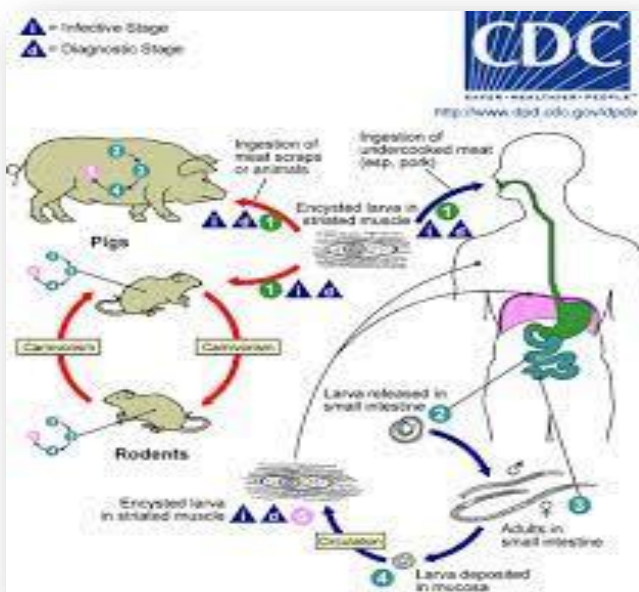


Fig: life cycle of *Trichinella spiralis*

Infection occurs between man, pig or rats. Basically infection occurs in rats, when this infected rat is eaten by pig, then pig gets infected. Due to poor sanitation when man eats improperly or undercooked pork then the cysts transmit into human body. After entering, the digestive enzymes of human host help the larvae to release from cyst wall. Then they invade mucosal layer of intestine & grow into adult & become sexually mature. Fertilization occurs and female discharges larvae and it migrates towards striated muscles. After that encystment occurs in coiled form in muscle & finally dead end occurs.

Trichinellosis is a worldwide disease, over 10,000 cases are estimated each year, the countries having highest number of human cases are China, Thailand, Mexico, Argentina etc. But in India, especially in North Eastern and Eastern part of country, trichinellosis is reported mostly as sporadic cases due to intake of raw meat. At least nine case reports and one outbreak of trichinellosis could be regained. Symptoms like **fever, muscle weakness, oedema, diarrhea, nausea, joint pain** was observed.

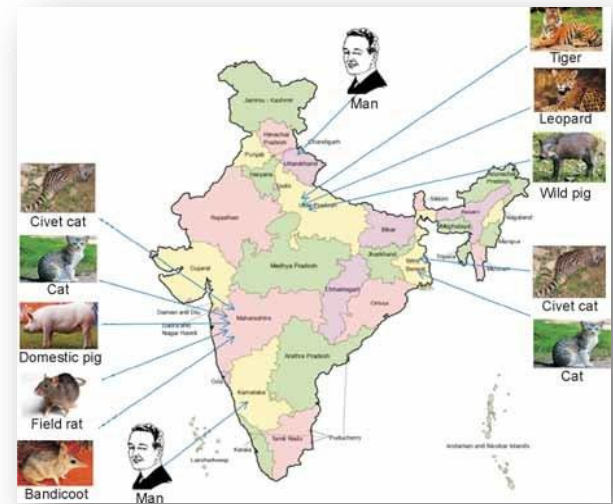


Fig: Host wise distribution of Trichinellosis in India

Sero-Prevalence rate of Trichinellosis in pigs of different states/districts of North East India

State	District	no. of pig serum	Sero Positive (%)
Assam	Kamrup	203	0 (0.00)
	Baska	77	1 (1.30)
	Nagaon	96	0 (0.00)
	Morigaon	78	0 (0.00)
	Jorhat	88	0 (0.00)
	Sivsagar	53	0 (0.00)
	Dibrugarh	166	1 (0.60)
	Tinsukia	172	0 (0.00)
	North Lakhimpur	81	0 (0.00)
	Dhemaji	112	1 (0.89)
Meghalaya	Total	1126	3 (0.27)
	Jayantia Hills Division	124	1 (0.81)
	Khasi Hills Division (Ribhoi, East & West KH)	118	0 (0.00)
	Total	242	1 (0.41)
Arunachal Pradesh	Subansiri	61	0 (0.00)
	Papum pare	54	0 (0.00)
	Total	115	0 (0.00)
Mizoram	Aizawl	30	0 (0.00)
	Kolasib	25	0 (0.00)
	Total	55	0 (0.00)
	West Tripura	30	0 (0.00)
Tripura	Khowai	12	0 (0.00)
	Total	42	0 (0.00)
Total		1580	4 (0.25)

Fig: sero -prevalence rate of Trichinellosis in pigs of different states / districts of North East India

It is a preventable disease. It involves huge financial loss and thereby OFFICE INTERNATIONAL DES EPIZOOTIES (OIE) and INTERNATIONAL COMMISSION ON TRICHINELLOSIS (ICT) has given guidelines which can be used for prevention and control of *Trichinella* infection in animals and humans. In India swine rearing is practiced mostly by small and marginal farmers as a source of supplementary income for livelihood. It is estimated that during 2013-2014 around 0.48 million tones pork was produced. Pre harvest infection control strategies should include education to pig farmers to follow good farm practices to prevent the pigs acquiring *Trichinella*. Through preventing indiscriminate scavenging, adapting stall feeding, provision of rodent proof pigsties, eliminating the access of pigs to dead carcasses & cooking of kitchen waste before feeding to pigs, preventive health interventions like regular deworming can reduce *Trichinella* infection in man and animal.

Conclusion: Proper education, hygiene maintain, healthy food ingestion can protect us from various diseases. Trichinellosis not only affect the health but also represents huge

economical loss in porcine animal production and food safety. It is very important to have a good interaction with public health sector and corresponding veterinary sector , so that we can minimize human infection from this zoonotic and costly disease.

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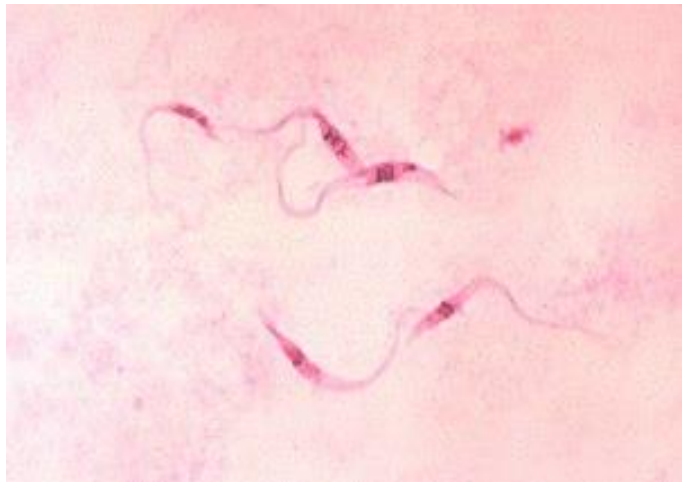
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Sleeping Sickness

Meghna Das, UG sem 6, Dept. of Zoology

Introduction:

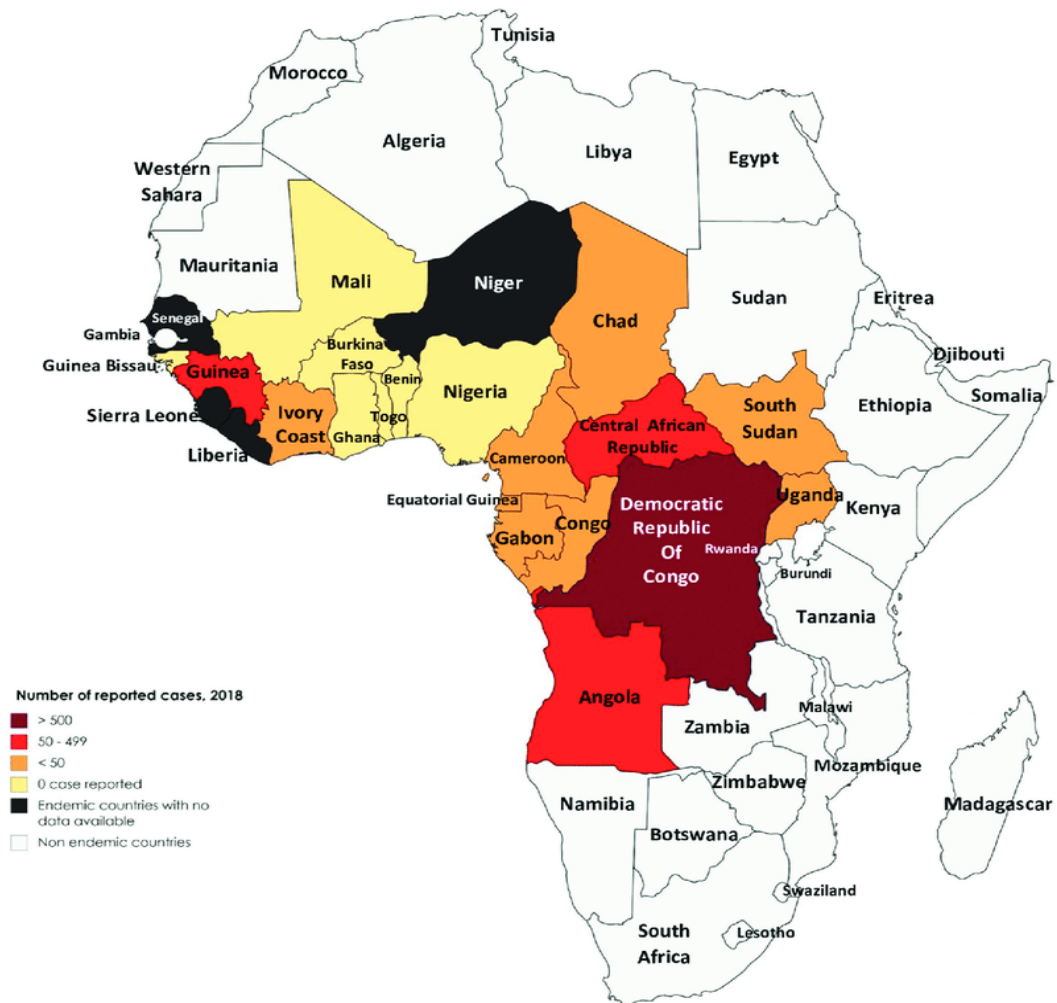
In the year 1843, David Gurby discovered a parasite in the blood of a frog. Then in 1902 Forde found a worm like body in the blood of a European patient suffering from sleeping sickness in Gambia. That was when we realized that 2 parasites, namely, *Trypanosoma brucei gambiense* and *Trypanosoma brucei rhodesiense* are responsible for the zoonotic diseases ‘African Trypanosomiasis’ or commonly known as “Sleeping sickness”. This disease is transmitted by kissing bug, which act as a vector. When bitten by this tsetse fly the vector transmits it saliva laden with **metacyclic trypomastigote**, the infective stage of *trypanosoma*, to the blood vessels of the patients.



1. Kissing Bug, 2. & 3. Metacyclic Trypomastigote stage in the blood stream

Epidemiology:

African Sleeping Sickness has probably plagued human inhabitants of Africa since the appearance of the domain of tsetse fly in human civilisation. At the beginning of the 20th century, almost 3million inhabitants died in Central Africa from African Trypanosomiasis, making the condition severely endemic. But Colonial Regimes successfully eradicated the disease and was under control by the end of 1960s. But again reached its peak in 1990s and under the guidance of WHO and different NGOs of different countries, the situation is under control now. Each year there is a decrease of almost millions of cases. Currently, the Gambiense form is declared to be about 98% of cases, among which Democratic Republic of Congo is the most affected country.



Life Cycle:



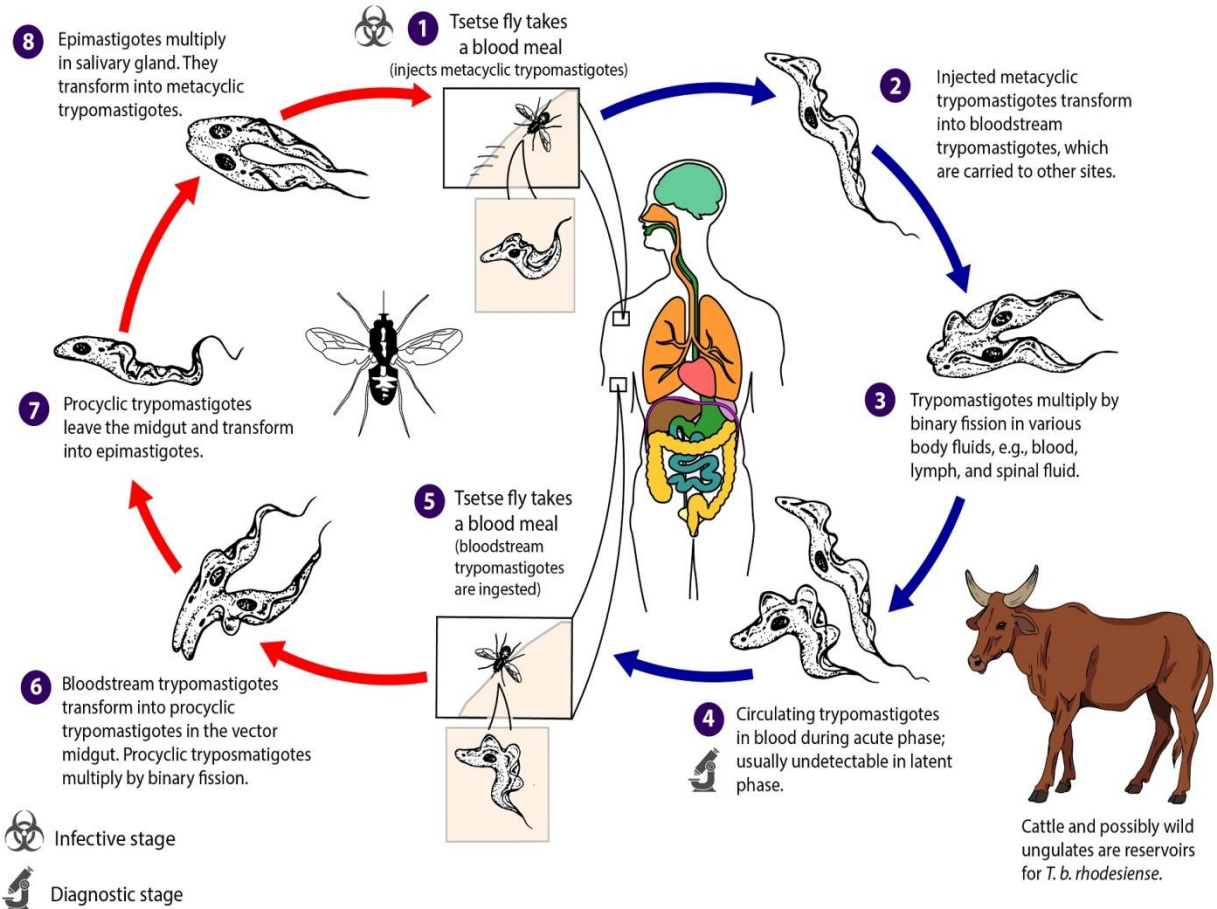
African Trypanosomiasis

Trypanosoma brucei gambiense & *Trypanosoma brucei rhodesiense*



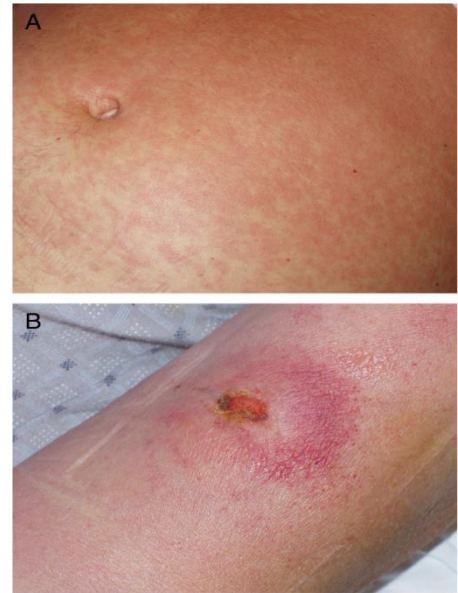
Tsetse Fly Stages

Mammalian Stages



Symptoms:

- Relapsing fever which continue for several months.
- Shivering, sweating and increased pulse rate.
- Bleeding from infected fly bite region.
- Nervous system is involved, which leads to reversal of sleep pattern, in severe cases leads to permanent sleep, coma, and death.
- Involvement of motor functions leads to impaired speech.
- Mental distortion.



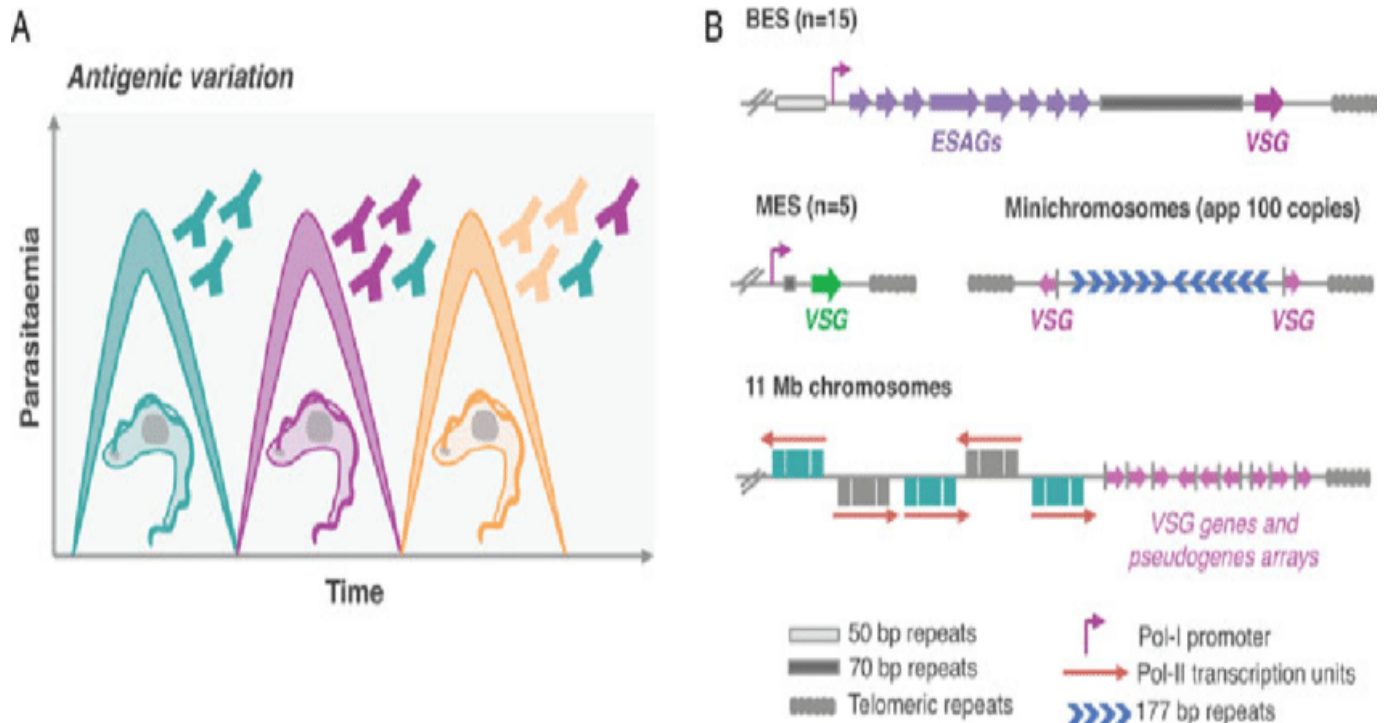
Immunology (VSG):

We all know how complex our nervous system is, so it's not easy for any parasites to enter to Central Nervous System. But *Trypanosoma* hemoflagellates have developed a variety of techniques to invade and persist in the robust human immune response.

The metacyclic trypomastigote begin to replicate and invade local tissues just after they enter the blood stream by the bite of tsetse fly.

Trypanosomes survive against the host's immune system by cycling expression of a Variant Surface Glycoprotein (VSG), expressing only one at a time. Initially the host's immune system cannot recognize the glycoprotein surface, but soon an IgM comes and successfully identifies and destroys most of the *Trypanosomes* residing in the blood.

However, very few survive by timely shedding their surface coat and subsequently changing into another VSG, other than that targeted by the IgM response, which replicates itself and cause a wave of parasitemia. Because over 1000 antigenically distinct VSG genes exists within the *Trypanosoma*, waves of parasitemia can persist for long durations. This is how *Trypanosomes* continue these cycles in the blood, and successfully infiltrate the CNS.



Conclusion:

Although there is no vaccine discovered till now, but the Rate of death has been under control. Early diagnosis and treatment are available in almost every country, which made this disease curable at early stages. WHO and NGOs have successfully initiated and controlled this disease with several measures. Hope we will soon eradicate this deadly disease from our Earth.

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- Human African Trypanosomiasis; BMJ; Stich A, Abel PM & Krishna S.; July 27,2002; 325(7357)
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Zoonotic Psittacosis

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Introduction

Zoonotic disease, means transmission of contagious pathogen from animals to humans body. Psittacosis is a zoonotic bacterial infectious disease caused by the obligate intracellular organism, *Chlamydia psittaci*, which is also known as parrot fever. Birds like parakeets, parrots, lorries, cockatoos, and budgerigars commonly infected by this pathogen. It is transmitted from contact with infected birds and causes a wide-ranging spectrum of disease and severity.

About *C. psittaci*

C. psittaci is a gram-negative and obligate intracellular bacterium. *C. psittaci* is members of the bacterial family Chlamydiaceae. It has two alternating body forms- EB(elementary bodies) & RB(reticulate bodies). This bacteria commonly infects birds, causes psittacosis in humans.

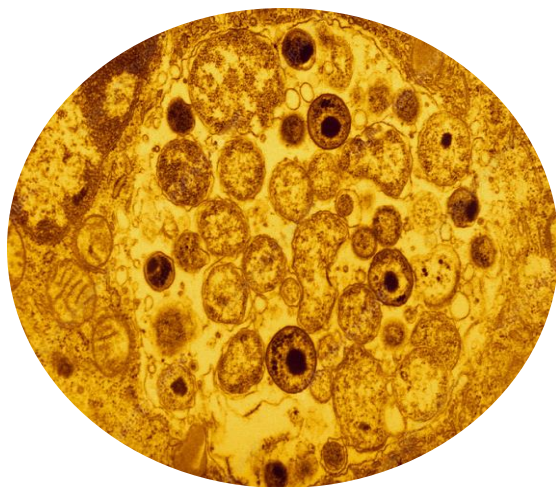


Fig2:- *C. psittaci* in lung cell

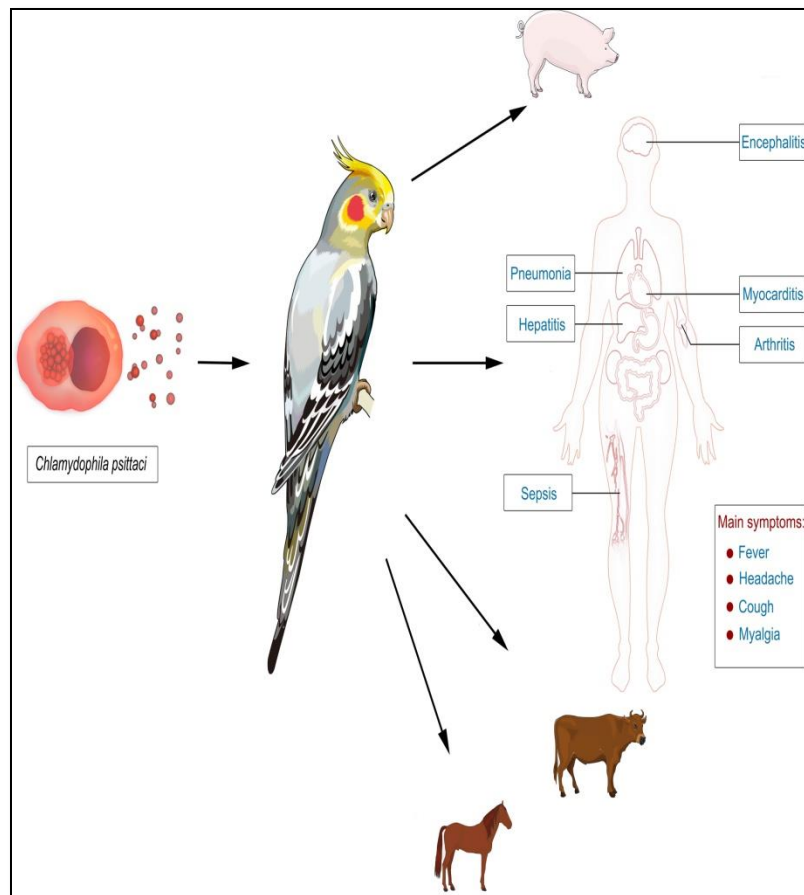


Fig2:- The epidemiology of psittacosis and its manifestations in infected persons. (Source-Epidemiological analysis of Psittacosi, Zhimei Duan, 2019-2021)

Transmission

- As birds are the primary reservoir of this disease it can be transmitted to human by normally bite.
- Beak to mouth route.
- Breathing in the dust from dried secretion which is secreted by infected birds .
- Inhalation of infected bird's dried feces.

Symptoms of psittacosis

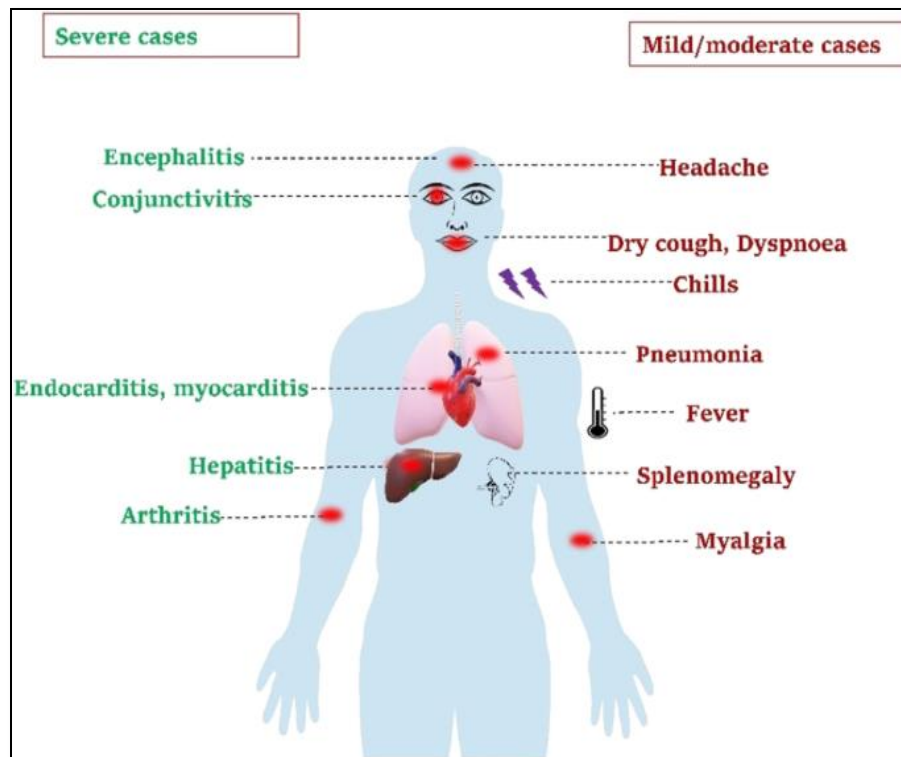


Fig3:- Clinical manifestation in human by Psittacosis

Prevention

Prevention takes place through control measures.

- ✓ Keep clean the cage daily and food and water bowls daily.
- ✓ Prevent spread of feathers, feces, remaining food from the cage to outside.
- ✓ Avoid over-crowding.
- ✓ Isolate and treat infected birds.

References:-

- Laboratory methods for case finding in human psittacosis outbreaks: a systematic review Annelies A. Nieuwenhuizen1 , Frederika Dijkstra, Daan W. Notermans and Wim van der Hoek: BMC Infectious Diseases (2018).
- Psittacosis;Justin Chu,Siva Naga;StatPerals:2023.
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Thank You