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Diploma in Pharmacy 1st Year
Social Pharmacy
Experiment

To study about the arthropods borne infection including Dengue and Malaria

Aim:

To study about the arthropods borne infection including Dengue and Malaria

Reference :

Dr. Gupta G.D , Dr. Sharma Shailesh , Dr. Sharma Anshu , " Practical Manual of Social Pharmacy " Published by Nirali Prakashan , Pg.No 61 - 65

Theory :

Arboviral disease is also called as arthropods borne infection disease is a term used to describe infections caused by viruses and spread by the bite of infected arthropods to the people such as mosquitoes. These infections generally occur in warm weather months, when the mosquitoes and ticks are active. Only some types of mosquitoes actually carry a virus that can cause a disease at any one time. Some Arboviral infections are encephalitis which is spread by the bite of infected ticks. Arboviral infections also spread by organ transplantation, blood transfusion, sexual contact. and from the mother to the child during birth depending on the specific virus involved.

Sign and Symptoms

Indications of Arboviral contaminations run from gentle to serious. At some point the contaminated individual encounter no indications or exceptionally gentle indications of slight fever, muscle or joint forment, migraine, and/or a skin basty, which resolve at its possess with no genuine wellbeing issues. Serious contaminations can be stamped by a quick onset, migraine, high fever, perplexity, tremors, seizures, loss of motion, coma, or death. Side effects are shown up to 3 to 14 days after a chomp from a contaminated mosquito or tick but can change depending on particular contamination.

Diagnoses of Arboviral Infections

Doctors analyse the Arboviral diseases and based on the patient's clinical indications and by testing blood and other body liquids, which appear be the evidence of disease.

Treatment for an Infection due to an Arbovirus

Health care suppliers more often than not endeavor to calm the indications of the sickness, but there are no particular medications accessible for arboviral the infections.

Prevention

Creepy crawly repellents can be viable at diminishing nibbles from mosquitoes and ticks that can spread disease. While choosing to utilise a repellent, then their utilisation should be pre decided, like where, what and how much to use. Wearing long sleeves and tucking pants into socks and shirts into the pants when going outside, particularly at first light or sunset, the time of the day when mosquitoes are the most dynamic

Light-coloured dress spot ticks easily. Reduce the mosquito populace around the domestic and property, decrease or evacuate all standing water. Dispose of tin cans, plastic holders, ceramic pots or comparable water-holding containers Remove and reuse all disposed of tires on the property. Utilised tires are a note worthy mosquito- breeding of reusing holders that are site Drill gaps within the bottoms kept outdoors. Make sure roof canals deplete appropriately and clean clogged canals within the spring and fall.

Two most common arthropod bome diseases are as follows :

1. **Dengue:** Dengue fever, also known as break bone fever could be a flu-like sickness caused by the Dengue infection. It is caused when an Aedes mosquito carrying the infection nibbles a healthy person. This disease s basically found within the tropical and sub-tropical districts of the world. Concurring to WHO. assessed 500,000 individuals require an hospitalisation each year. Most cases occur in tropical ranges of the world, with the populace within the Indian subcontinent, Southeast Asia, Mexico. Africa, parts of Central and South America most vulnerable to the infection.

Causes

Dengue is caused due to four infections, specifically DENV-1, DENV-2 DENV-3, and DENV-4. The virus enters a mosquito when it chomps an already infected person. And the ailment is spread when it nibbles a healthy individual, and the infection spreads through the person's blood stream Once individual recoups, he is resistant to the particular infection and not the other three species. The Dengue fever, also known as Dengue Haemorrhagic Fever, in case of second third or fourth time of contamination.

Symptoms

The symptoms of Dengue are an uncomplicated fever which is not casily identified in teens and children. Dengue causes a fever of 104 F degrees along with other symptoms which can be:

i. Headache
ii. Muscle, bone and joint pain
iii. Nausea
iv. Vomiting
v. Pain behind the eyes
vi. Swollen glands
vii. Rash

Treatment

There's no particular treatment of Dengue fever or cure as Dengue is an infection produced by virus Convenient intercession can help, depending on how extreme the malady is. Here are a couple of essential medicines of Dengue fever:

i. **Medication:** Painkillers for example Tylenol or Paracetamol are prescribed to the patients. IV drips are supplemented in case of severe dehydration
ii. **Stay Hydrated:** as most of our body fluids are lost during vomiting and high fever hydration is of much importance

Prevention

i. **Lesser Skin Exposure:** wearing long pants and shirts to cover the skin surfaces and reducing the chances of bites. Mosquitoes are active early in the morning or evening, avoiding these times will lead to less exposure of the virus

ii. **Mosquito Repellent:** A repellent with 10 per cent concentration of diethyl toluamide. A higher concentration is required for longer exposures. These ointments can be applied daily to keep mosquitoes away.

iii. **Personal Hygiene:** when the person is infected with any virus, then the patient is extra sensitive to other illnesses. Use of hand sanitiser keeps germs at bay.

2. **Malaria:** Malaria is a mosquito-borne infectious disease that affects humans and other animals. Malaria causes symptoms that typically include fever, tiredness, vomiting, and headaches. In severe cases, it can cause yellow skin.
seizures, coma, or death. Symptoms usually begin ten to fifteen days after being bitten by an infected mosquito. If not properly treated, people may have recurrences of the disease months later. In those who have recently survived an infection. re infection usually causes milder symptoms.
Malaria is caused by the Plasmodium parasite. The parasite can be spread to humans through the bites of infected mosquitoes. There are many different types of plasmodium parasite, but only 5 types cause malaria in humans These are

i. ***Plasmodium falciparum:*** They are mainly found in Africa, it's the mos common type of malaria parasite and is responsible for most malana deaths worldwide

ii. ***Plasmodium vivax:*** They are mainly found in Asia and South America. this parasite causes milder symptoms than Plasmodium falciparum, but it can stay in the liver for up to 3 years, which can result in relapses

iii. ***Plasmodium ovale:*** They are fairly uncommon and usually found in West Africa, 11 can remain in the liver for several years without producing symptoms

iv. ***Plasmodium malariae:*** This is quite rare and usually only found in Africa Plasmodium knowlesi This is very rare and found in parts of Southeast Asia

Treatment

Malaria is treated with prescription drugs to kill the parasite. The types of drugs and the length of treatment vary, depending on the type of malaria parasite. The most common antimalarial drugs are:

i. **Chloroquine Phosphate :** Chloroquine is the preferred treatment for any parasite that is sensitive to the drug. But in many parts of the world, parasites are resistant to chloroquine, and the drug is no longer an effective treatment.

ii. **Artemisinin-based Combination Therapies (ACTs) :** ACT is a combination of two or more drugs that work against the malaria parasite in different ways. This is usually the preferred treatment for chloroquine-resistant malaria. Examples include artemether-lumefantrine (Coartem) and artesunate-mefloquine

iii. Other Common Antimalarial Drugs :

a) Atovaquone-proguanil (Malarone)
b) Quinine sulfate (Qualaquin) with doxycycline (Oracea, Vibramycin. others)
c) Primaquine Phosphate

Prevention

- One should apply mosquito repellent with DEET (diethyltoluamide) to exposed skin
- Use of mosquito netting over beds
- Use of screens on windows and doors.
- Treat clothing, mosquito nets, tents, sleeping bags and other fabrics with an insect repellent called Permethrin.
- Wear long pants and long sleeves to cover the skin

Result : The arthropods borne infection including Dengue and Malaria was studied.