Haemorrhagic fever

Haemorrhagic fever are serious viral infection may be a life threatening conditions , caused by many viruses which are zoontic and present according to its geographical distribution like Lassa fever transmitted to human from rat urine or patients body fluids commonly in west Africa . Ebola fever from bats to human commonly in central Africa . Yellow fever by mosquito Aedes Africanum in tropical Africa ,south and central America , Dengue by mosquito Aedes aegypti and monkeys in tropical and subtropical area, Asia ,Africa and America . Lassa fever has the least virus mortality and less severity 80% asymptomatic while most serious haemorrhagic viral infections are Marburg fever and Ebola fever .

Pathophysiology ; All haemorrhagic viruses form endothelium damage by immunity against viruses and cause platelets dysfunction with liver involvement, leads to capillary oozes of blood from many organ with shock state .

Clinical features

All haemorrhagic fever patients gave history of travel to or came from endemic area or contact with infected patients or history of tick bite ,monkey attachment ,rat contact …etc . With incubation period differs according to virus type usually from 3 - 42 days (median 21 days) all has relatively similar sign and symptoms with symptoms of fever generalized body ache ,headache , arthralgia which are sever ,nausea ,vomiting ,throat injection ,sclera injection , bradycardia and morbilliform rash which is blenching with pressure or maculopapular rash ,then followed by mucosal haemorrhage ,skin haemorrhage ,GIT bleeding ,the patient may develop acute respiratory distress syndrome ,hypovolumic shock , liver failure and or renal failure .

Investigations :

The patients has leucopenia and thrombocytopenia , virus isolation by culture , or PCR study for virus DNA study type ,serology for virus fourfold rise in IgG or elvated in IgM antibodies .Postmortum liver study .

Management

All patients with haemorrhagic fever must be isolated in special room with good protection of health care workers and good decontamination of instruments because body fluids of patients may be infectious ,good hydration with maintain electrolytes balance ,plasma expander may be needed for coagulopathy and correction of anemia by blood transfusion , no specific treatment for viruses of haemorrhagic fever except for Lassa fever Ribavirivn 100mg|kg IV. Then 25 mg/kg for 3 days then 12.5 mg/kg for 4 days .

Prevention

No vaccination for haemorrhagic fever infection viruses except for yellow fever live attenuated vaccine and ribavirin is given when there is risk of Lassa fever contact.

Dengue

It is febrile illness caused by Flavivirus ,It transmitted by mosquito to human .It common in Pacific ,Africa , large areas of Asia and America .
Aedes mosquito is living in standing water ,and water base cooler is the main vector for transmitting the virus to human .Alopictus mosquito is the vector of transmitting virus in south east Asia .
There are four serotypes of Dengue virus including Dengue haemorrhagic fever and Dengue shock syndrome .
Immunity if formed against Dengue virus is lifelong against the specific serotype virus and few months against other serotypes viruses .

Clinical features

After incubation period of 2- 7 days of transmitting the virus to human by mosquito the patient develops 2 day of prodromal symptoms of headache and malaise then develop fever continued for 7 days which is continuous in the 4^{th} day it improver the re-raise ,the fever associated with arthralgia, myalgia and headache it called break bone fever , the sclera of the eye is injected with painful eye movement and lacrimation with pharyngitis ,nausea ,vomiting ,upper respiratory tract symptoms and lymphadenopathy . In first day the patient develop macular rash then maculopapular rash or morbilliform rash (blanch in pressure) in 3- 5days of the illness , then the patient has petichael haemorrhage in pressure in the arm by cuff of sphygmomanometer between systolic and diastolic blood pressure for five minutes (tourniquet test) this first sign of haemorrhagic fever .If sever disease the patient complains of echymosis ,purpura ,epistaxix and gastrointestinal bleeding (Dengue haemorrhagic fever) . If leak of capillaries the patient will develop ,tachycardia ,hypotension with pleural effusion and ascites (Dengue shock syndrome) .

Diagnosis

The peripheral blood shows ,leucopenia ,neutropenia ,thrombocytopenia and elevated ALT ,AST liver enzymes . Anti-Dengue IgM or four fold rise in IgG titer .PCR study of Dengue virus .

Management

Treatment is supportive by fluid replacement ,correct bleeding state ,management of shock state and support the organs ,avoid aspirin drug .

Prevention : Education of the people about disease and eradication of Aedes mosquito .

Yellow fever

It is caused by flavivirus infection ,it transmitted to human by mosquito Aedes africanum which transmit infection to human from infected monkeys or by monkeys ride over human .

The disease common in west and central Africa ,south and central America .

Incubation period 3-6 days . Infectivity during viraemic phase 4-5 days after incubation period .

Pathophoysiology : it cause mid zone liver necrosis and showed mid zone necrosis and councilman bodies in yellow fever with little inflammatory cells .

Clinical features : The patients complains of fever ,headache ,backache ,nausea ,vomiting ,conjunctivitis ,sclera injection ,bradycardia . skin echymosis and petichael haemorrhage ,gastrointestinal haemorrhage with shock state due to hypovolumia ,renal failure ,jaundice and may develop liver failure .

Diagnosis : leucopenia ,thrombocytopenia ,elevated liver enzymes , isolation of the virus for culture or detected by PCR study , four fold rise in IGg titer or anti – yelow virus IgM antibody . Post mortum liver study showed mid zone necrosis and councilman bodies .

Management : Treatment is supportive by correction of hypotension by intravenous fluid ,correction of anemia by blood transfusion ,correction of bleeding tendency by platelets ,cryoprecipitate infusion ,peritoneal dialysis for renal failure .

Prevention : Yellow fever vaccine gives protection for ten years not given in immunocompromised patients .