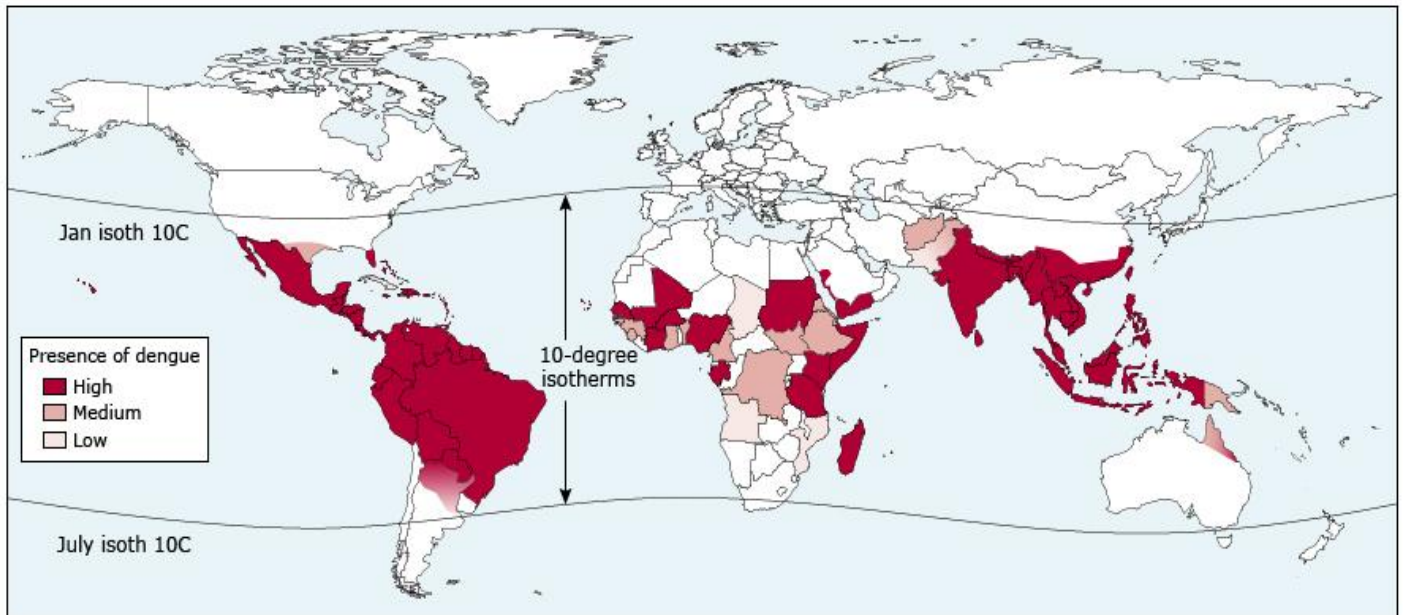


INFECTIOUS DISEASES

DENGUE

Dengue fever: caused by the RNA flaviviruses DENV-1, DENV-2, DENV-3 and DENV-4. A person may be infected by all four types individually, with higher risk of severe disease with each subsequent infection.

Vector: transmitted by bites from infected *Aedes aegypti* mosquitoes.



Incubation period: 3-14 days

Pathogenesis:

Local infection around bite -> dissemination through blood and lymph -> immune response.

Macrophages of the reticuloendothelial system are thought to be dengue's main targets.

Direct infection of bone marrow cells leads to bone marrow suppression.

Liver injury may be due to direct action of the virus on Kupffer cells/hepatocytes or may be immune-mediated.

Pathogenesis of Dengue Haemorrhagic Fever (DHF):

Inflammation and direct infection of endothelial cells -> endothelial dysfunction.

Endothelial dysfunction -> capillary fluid leak and disseminated intravascular coagulation.

Cross-reaction with antibodies and bone marrow suppression -> thrombocytopenia

Clinical Features: duration 5-7 days – may be followed by prolonged fatigue.

Dengue Fever	Dengue Haemorrhagic Fever
Fever	Ascites
Headache	Pleural effusions
Myalgia/arthritis	Spontaneous bleeding
Maculopapular rash	Purpura/petechial rash
D&V, abdominal pain	Shock
Cough, coryza, pharyngitis	Multi-organ Dysfunction
Lymphadenopathy	
Hepatomegaly	
Conjunctival injection	

Clinically, DHF is defined by:

- Plasma leakage syndrome (20% rise in haematocrit above baseline, pleural effusion or ascites)
- Platelets <100
- Fever lasting 2 - 7 days
- Haemorrhagic tendency (spontaneous bleeding, petechiae from tourniquet use)

Many patients will not fulfil criteria but have warning signs for DHF:

- Abdominal pain or tenderness
- Persistent vomiting
- Ascites, pleural effusion
- Mucosal bleeding
- Lethargy or restlessness
- Hepatomegaly >2cm
- Increased haematocrit & thrombocytopenia

Management:

Dengue fever with no warning signs may be appropriate for outpatient management.

Dengue with warning signs, comorbidities or with dengue haemorrhagic fever requires admission for supportive management.

Ultimately in A&E you will be unable to determine diagnosis so discuss all suspected cases with the ID doctor on-call.

Management is supportive with IV fluids and blood transfusions as required.