

## 13. DENGUE FEVER IN IMMUNOCOMPROMISED PATIENTS

### Dengue in immunocompromised persons

**A working definition of immunocompromised states would be:**

1. Patients on cancer chemotherapy
2. Solid organ transplant patients undergoing anti-rejection therapy
3. Bone marrow transplant patients undergoing anti-rejection therapy
4. Primary/congenital immunodeficiency disorders
5. Chronic steroid therapy
6. Auto-immune diseases undergoing treatment with immunomodulator/immune suppressive medicines
7. HIV/AIDS with CD4 count < 200 (severe immune deficiency), between 200-500 (mild to moderate immune deficiency)
8. Conditions such as short term use of corticosteroids (< 2 weeks), HIV patients having CD4 count > 500, patients with leukemias/lymphomas whose disease is in remission and last chemotherapy was more than 3 months ago, patients on whom steroids have been discontinued more than 1 month ago, patients with bone marrow transplant done > 2 years ago and not taking any immunosuppressive medications plus no graft versus host disease are not considered as significant immunosuppression

### Management guidelines

1. Clinical presentation of dengue in immunocompromised patients seems to be similar to that in immunocompetent individuals, except that the disease course could be prolonged.
2. Unusual presentations of dengue infection do occur but does not seem to be as common as in other infections
3. Limited data suggest similar sensitivity and specificity of diagnostic tests as in immunocompetent individuals.
4. Principles of treatment and prevention remains the same as in immunocompetent individuals
5. Individuals with severe neutropenia (absolute neutrophil count below 500) and fever (above 38.3C) may be given empiric antimicrobial cover with an antibiotic, as per standard guidelines for such patients (e.g. IDSA guidelines for febrile neutropenic patients 2010)

### **Potential immunocompromised state in dengue fever patients**

1. This may be due to neutropenia as a result of Dengue
  - i. Management principles of treatment would be as per standard guidelines, PLUS
  - ii. Empiric use of antibiotics may be considered, (after blood has been drawn for culture and sensitivity in individuals with severe neutropenia - absolute neutrophil count below 500 – PLUS fever of more than 38.3°C.

*(As there is no experimental data exists on the use of antibiotics regimen – data from immune-compromised cancer patients is therefore being extrapolated)*