Role of Biomarkers in Dengue

Why in news?

Mumbai based study on dengue found that biomarkers can help to curb deaths caused by the disease.

What are biomarkers and how it is used?

- Biomarkers are indicators that help in determining the presence or severity of a disease.
- The idea is to establish molecular signatures for complicated cases.
- It is used to have a sound knowledge of the disease progression in different individuals suffering from the disease.

What are the characteristics of Dengue?

- It is spread through the bite of an infected female Aedes Aegyptus mosquito.
- Dengue Haemorrhagic Fever (DHF) can lead to lethal complications.
- DHF in its severe form causes Dengue Shock Syndrome (DSS).
- DSS is associated with very high mortality rate as the blood pressure drops down drastically and organs start to collapse.
What is the status of dengue in India?

- The first evidence of occurrence of dengue in India was reported in 1956 from Vellore district in Tamil Nadu.
- A disease that was known for its presence only in urban areas gradually spread across the country.
- According to the National Vector Borne Disease Control Programme (NVBDCP) In 2016, the number of cases were 1,29,166 and 245 deaths.

What are the outcomes of the study?

- The study collected about 100 to 150 samples of which half will be of dengue patients who required ICU admission.
- Not all dengue cases develop in DHF or DSS.
- The study aims to identify a panel of protein biomarkers that can find the answers and help in prediction of severity of the disease.
- The aim is to eventually develop a diagnostic kit to avoid severe disease progression.
- If a predictive test comes in place, it will be a game changer.
- Knowing well in advance how a disease will progress will bring down unnecessary hospitalisations.