Sickle Cell Anaemia [UPSC Notes]

The Union Finance Minister announced in the Union Budget 2023 that the government would work in "mission mode" to eliminate sickle cell anaemia. The target for elimination is fixed by the year 2047. What is sickle cell anaemia? What are its symptoms and cure? Know more about sickle cell anaemia for the UPSC exam.

Sickle Cell Anaemia

Sickle cell anaemia is a genetic blood disorder.

- In this disease, the red blood cells distort in the shape of a sickle. They are not healthy developments and the cells die early, causing a shortage of healthy red blood cells. Low red blood cells can block blood flow causing pain.
- It can also cause infections, pain and fatigue.
- Patients suffering from sickle cell anaemia can suffer from episodes of pain known as vaso-occlusive crises, which vary in intensity and can last from a few days to weeks.
- The pain crisis can be triggered by illness, over-activity, stress, or lack of hydration at high altitudes. Recurrent episodes of pain can lead to permanent damage to organs like the liver, lungs, kidneys, brain, and bones.

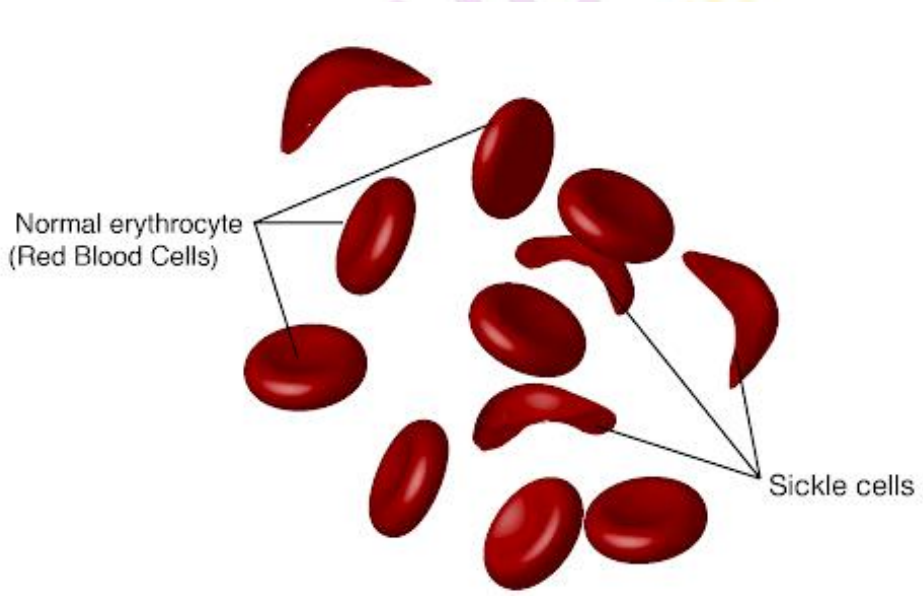

Image source: genome.gov

Sickle Cell Anaemia Prevalence

- Research has found that the occurrence of the blood disorder disease is **more prevalent in tribal populations compared to non-tribal populations in India.**
- Studies have also shown that sickle cell anaemia is widespread in areas where malaria is endemic.
    - During the 1940s, another relation between these diseases was found according to which people having sickle red blood cells have more chances of surviving malaria.
- **Indian scenario:** In India, tribal populations have the most malaria caseload. India stood as the 2nd most affected country for cases of predicted births with sickle cell anaemia.

Sickle Cell Anaemia Treatment:

- **Sickle cell anaemia is a genetic disorder.** So completely eliminating it is a challenge. More research and scientific breakthroughs are needed.
- The available treatment is very costly and stem cell transplants or gene therapy is used.
- Blood transfusion from healthy donors is also used.
- For certain children or teenagers, stem cell transplants can be undertaken to treat the condition.

Challenges to treating sickle cell anaemia:

- Fears around the safe supply of blood.
- Risk of infection.
- Lack of donors.

World Sickle Cell Day

Every year, 19 June is commemorated as 'World Sickle Cell Day' as per a UNGA resolution to this effect passed in 2008. Accordingly, the first Sickle Cell Day was observed in 2009.

Read more on World Sickle Cell Anaemia Day in the link.