Sudden Infant Death Syndrome

For Prelims: Sudden Infant Death Syndrome, Butyrylcholinesterase.

For Mains: New Study about Sudden Infant Death Syndrome and its limitations.

Why in News?

A team of researchers in Australia has identified a biochemical marker in the blood that could help identify newborn babies at risk for the **Sudden Infant Death Syndrome (SIDS)**.

• The researchers used dried blood spots from newborn infants and screened the samples for BChE (Butyrylcholinesterase) level and total protein content.

What is SIDS?

- Sudden infant death syndrome is the **unexpected death of an apparently healthy infant**.
- It usually occurs while the baby is asleep, although in rare cases, it can also occur while the child is awake.
- The condition is also called "Cot Death".
- Newborn babies delivered prematurely or with low weight at birth are believed to be at a greater risk of SIDS.
- The exact cause of SIDS is unknown, although revelations from the new research look promising.

What are the Findings?

- Babies who died of SIDS showed lower levels of the BChE enzyme shortly after birth.
 - A low level of the BChE enzyme affects a sleeping infant's ability to wake up or respond to their environment.
 - The enzyme is **an important part of the autonomic nervous system** of the body and controls unconscious and involuntary functions.
- The previously conducted studies have found that low BChE activity is associated with severe systemic inflammation and considerably higher mortality after sepsis and cardiac events.
 - Prior to this research on SIDS, inflammation has been thought to be a factor in SIDS cases.
- The mild inflammatory changes on the walls of air passages of the lungs were observed in SIDS infants as early as 1889.
- Prematurely-delivered babies have been considered to be at a higher risk for SIDS, although a 1957 study that evaluated BChE in infancy found that there was no difference in the levels of the enzyme in premature and mature newborn infants.
- Smoking during pregnancy is associated with a significant increase in SIDS events.

What are the Limitations of the study?

• Even though BChE levels can be a possible cause of SIDS, the research points out that **the**

samples were over two years old and hence would not accurately reflect BChE specific activity in fresh dried blood samples.

- The researchers also added that despite analysing over 600 control samples, they are unaware of how common abnormality is in the wider population.
- Furthermore, the study did not use autopsy details of the subjects of the study but used Coroners' Diagnosis (when a death is reported to the coroner, the coroner investigates who has died, where, when and how the death occurred. If the cause of death is unclear, the coroner will order a post-mortem) where possible.

Source: TH

PDF Refernece URL: https://www.drishtiias.com/printpdf/sudden-infant-death-syndrome