New study on Blood cancer

Why in news?

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A Study at DNA Fingerprinting and Diagnostics, Hyderabad, have come up with new insights on Leukemia.

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What is Leukemia?

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- Leukemia is cancer of the blood or bone marrow which produces blood cells.
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- A person who has leukemia suffers from an abnormal production of blood cells.
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- There are several stages of maturation in a white blood cell's lifespan.
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- Acute leukemia crowds out the good cells more quickly than chronic leukemia.
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- Treatment requires holistic approach of financial support, psychological support, and a patient tracking system.
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What is the status of leukemia in India?

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- Acute leukemia cases are recorded across India.
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- There are nearly 25,000 children diagnosed with cancer in India every year and around 9000 of these have leukemia.
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- There would be 90,000 children with leukemia in a decade in India.
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- The data of those children who are treated are missing.
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What are the findings of the study?

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- Mixed Lineage Leukemia (MLL) protein is closely associated with leukemia (blood cancer) in children and adults.
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- The protein plays a crucial role in cell division by regulating chromosome segregation.
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- The absence of MLL itself gives rise to genomic instability and makes the cell prone to cancer.
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- Efforts has been made to discover the essential cellular functions of MLL.
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- Kinesin ‘motor’ protein Kif2AK is responsible for organizing MLL cells and associated with several kinds of cancers.
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What is the way forward?

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- The study helps in clear understanding the blood cancer.
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- The genome editing techniques can be carried out with a wide knowledge of MLL protein cells.
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- This breakthrough findings will help the Indian pharma sector to introduce new life saving drugs.
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Quick fact

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- DNA fingerprinting is a method used to identify an individual from a sample of DNA by looking at unique patterns in their DNA.
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- DNA fingerprinting was to extract DNA from a sample of human material, usually blood.
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- This technology is globally used in solving the crimes.
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Source: Business Line

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