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Sepsivac to be Tested for Covid-19

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Why in News

The **Council of Scientific and Industrial Research (CSIR)** has decided to **test its new drug against Sepsis**, named **Sepsivac** to treat critical patients of **Covid-19**.

The drug **will be tested in 50 Covid-19** patients at the All-India Institute of Medical Sciences in Delhi and Bhopal, and Post Graduate Institute of Medical Education and Research, Chandigarh.

Key Points

- **New Drug Against Sepsis**
 - The new drug has **recently been approved for marketing** in India and would be available commercially as Sepsivac® from Ahmedabad-based Cadila Pharmaceuticals Limited.
 - The pharmaceutical company was **supported by CSIR laboratories led by Indian Institute of Integrative Medicine (IIIM)**, Jammu in development of this drug, which has **also** been found **effective for leprosy patients**.

- **Gram Negative Sepsis and Covid-19**

- **Sepsis** is a serious life-threatening condition caused when the body's response to any kind of infection goes out of balance, triggering changes that can lead to **multi-organ failure**.
- **Gram negative bacteremia** (presence of bacteria in the bloodstream) in the critically ill patient is **synonymous with gram negative sepsis**.
 - **Gram-negative bacteria** have built-in abilities to find new ways to be resistant and can pass along genetic materials that allow other bacteria to become drug-resistant as well.
- According to scientists, there are **some clinical similarities between patients suffering from gram-negative Sepsis and Covid-19**.
- A Covid-19 infection **leads to a cytokine storm**, quite **similar to the one seen in Sepsis**, when there is a **heightened immune response** and over production of immune cells because of which the body starts attacking its own cells. There is inflammation and it reduces the lung's capacity to absorb oxygen.

- **Effectiveness of Sepsivac**

- Previous randomised trials in sepsis patients showed **11% absolute reduction and 55.5% relative reduction in mortality**. Sepsivac reduces the days on ventilator, in ICU and hospital and incidence of secondary infection.
- The drug **uses the Mycobacterium w** (formally known as mycobacterium indicus pranii) as it produces a different immune-system response.
 - The United States and Australia are also going to start testing the efficacy of the **BCG, or tuberculosis vaccine**, that also employs a different strain of mycobacterium, in health care workers at the frontline of treating Covid-19 patients.

- **CSIR's Plan for Mycobacterium w**

CSIR has also planned to **evaluate Mw for faster recovery of hospitalised Covid-19 infected patients** and minimise the spread of disease through them as well for providing **preventive treatment (prophylaxis) to persons coming in contact with Covid-19 infected patients** like family members and health care workers.

Council of Scientific and Industrial Research

- CSIR was established by the Government of India in **September 1942 as an autonomous body**.
- It is known for its cutting edge R&D knowledge base in diverse S&T areas.
- Council of Scientific and Industrial Research (CSIR) has been **ranked first in the Nature Ranking Index-2020**.

The Nature Index provides a close to real-time proxy of high-quality research output and collaboration at the institutional, national and regional level.

Source: TH