



Indigenous Vaccine Pneumosil

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Why in News

Recently, **India's first fully indigenously developed pneumococcal conjugate vaccine "Pneumosil"** has been launched.

Key Points

- **Developed by: Serum Institute of India (SII)**, through a collaboration with **PATH** and **Bill and Melinda Gates Foundation**.
 - **Serum Institute of India** is a **Pune** based **world's largest vaccine** manufacturer by number of doses produced and sold globally.
 - **PATH** is an **international, nonprofit global health organization** based in **Seattle** (USA).
 - The **Bill & Melinda Gates Foundation** (BMGF) is an American private foundation, founded by Bill and Melinda Gates. Based in Seattle, Washington, the primary goals of the foundation are to **enhance healthcare** and **reduce extreme poverty** across the globe, and to expand **educational opportunities** and access to information technology in the USA.

- **Information about the Vaccine:**

- The vaccine **targets the pneumococcal bacterium**, which causes pneumonia and other serious life-threatening diseases such as meningitis and sepsis, and is estimated to cause nearly four lakh deaths in children under five years of age each year worldwide.

- It will be **available in the market at an affordable price in single dose and multidose presentations.**

While **pneumococcal conjugate vaccines (PCVs)** have helped reduce pneumococcal deaths, they are difficult for many countries to afford.

- The **unique feature** of the vaccine is its composition, which is **specifically tailored** to the **prevailing serotype prevalence of S Pneumoniae in India** and other regions of the world.

A serotype or serovar is a **distinct variation within a species of bacteria or virus** or **among immune cells of different individuals.**

- It was **licensed by the Drugs Controller General (India)** in July 2020.

- **Significance:**

- It is an example of **India's capability in Research & Development & manufacturing high end sophisticated Vaccines.**

Till now, India was **fully dependent on Pneumococcal Conjugate Vaccine (PCV) manufactured by Foreign Manufacturers** which are available at very high prices.

- The vaccine also makes SII the first **developing country vaccine manufacturer** to access the global PCV market.

SII is also the maker of **Covishield**, the Indian version of the **AstraZeneca-Oxford coronavirus vaccine.**

Pneumococcal Disease

- **About the Disease:**
 - Pneumococcal disease is a name for **any infection caused by bacteria called *Streptococcus pneumoniae*** or pneumococcus.
 - The bacteria is the most common **cause of bloodstream infections, pneumonia, meningitis, and middle ear infections in young children.**
 - **Pneumonia** is an **infection of the lungs.** Many different bacteria, viruses, and even fungi can cause pneumonia. **Pneumococcus is one of the most common causes of severe pneumonia.**
 - Doctors consider some of these infections “**invasive**”.
 - Invasive disease means that **germs invade parts of the body that are normally free from germs.**
 - For example, **pneumococcal bacteria can invade the bloodstream, causing bacteremia,** and the tissues and fluids covering the brain and spinal cord, causing meningitis. When this happens, disease is usually very severe, requiring treatment in a hospital and even causing death in some cases.
- **Disease Burden:**
 - Annually India witnesses an estimated **71% of pneumonia deaths** and **57% of severe pneumonia cases.**
 - According to the **World Health Organisation (WHO)**, pneumonia accounts for **15% of all deaths of children under 5 years.**
- **Prevention:**
 - **Pneumococcal Conjugate Vaccine (PCV)** prevents pneumococcal disease.
 - The vaccine is a **mix of several bacteria of the pneumococci family,** which are known to cause pneumonia, hence ‘conjugate’ is included in the name of the vaccine.
 - **Conjugate vaccines** are made using a combination of two different components.
 - The Indian government has been ensuring **PCV under Universal Immunisation Programme** (UIP) to fight pneumococcal disease.

Source:TH