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Molnupiravir: A Drug for Covid-19

Notes for civil services preparation



UPSC

General Studies

Molnupiravir: A Drug for Covid-19

Recently, it is claimed that Molnupiravir, an oral drug, can cut the risk of hospitalisation in Covid-19 patients by half, in phase 3 trials.

- In India, the Optimus Group recently announced the results of phase 3 clinical trials, which found 91.5% of patients given the drug tested **RT-PCR (Reverse Transcription Polymerase Chain Reaction)** negative.

Key Points

Molnupiravir:

- It belongs to a class of **broad spectrum antiviral drugs called nucleoside analogues**.
- They act by interfering with the function of **viral RNA (Ribonucleic Acids) polymerases** – which are enzymes that make new viral RNA in infected cells.
- RNA is a polymer of ribonucleotides and an important biological macromolecule that is present in all biological cells.
- It is principally involved in the synthesis of proteins, carrying the messenger instructions from **Deoxyribonucleic acid (DNA)**, which itself contains the genetic instructions required for the development and maintenance of life.
- It works by **causing viruses to make errors when copying** their own RNA, introducing **mutations that inhibit replication**.
- It was initially invented as **a drug for the influenza virus**.

Mechanism:

- These drugs work by **preventing the process of replication of the virus inside human cells**.
- A **virus** is a biological agent that can self-replicate inside a host cell. The infected cells by viruses may produce thousands of new copies of the original virus at an extraordinary rate.
- It **alters critical enzymes** that were necessary to the virus for replicating in the human body cells.
- As of now, the **Emergency Use Authorization is awaited** for the drug but currently, it can be administered as a pill in a **5-day regimen**.