

5. Blood Clots Caused by Coronavirus

Prelims Syllabus: Medicine and Pharmaceuticals

Mains Syllabus: GS-III Awareness in the fields of IT, Space, Computers, Robotics, Nano-Technology, Bio-Technology and Issues Relating to Intellectual Property Rights.

Why in News?

- The doctors around the world have recently noticed a raft of clotting-related disorders in Covid-19 patients, which causes benign Skin lesions on the feet to strokes and Blood-Vessel Blockages.

Highlights:

- Generally, it was considered that the vast majority of lung damage in Covid-19 patients was due to viral pneumonia.
- But the autopsies of the Covid-19 patients show that clumps of platelets inside blood vessels, or micro **thrombi**, to be the reason for rapid and dramatic deterioration of condition of patients.
- These blood clots are called thrombi, that form in patients' **arterial catheters** and filters used to support failing kidneys.
- The clots impede blood flow in the lungs, which develop severe blood-oxygen deficiency, causing difficulty in breathing.
- Studies found that as many as 30% of severely ill Covid-19 patients suffered a so-called **pulmonary embolism**, a potentially deadly blockage in one of the arteries of the lungs.
- **Pulmonary embolism:** It often occurs when bits of blood clots from veins deep in the legs travel to the lungs. It was 1.3% in critically ill patients without Covid-19.
- The **D-dimer blood test** is being used around the world to monitor clot formation in patients, including those with Covid-19, and patients are also being dosened with heparin and other anticoagulant medications.

Background of Blood Clotting Diseases:

- In 1918 Spanish flu pandemic, caused by a novel strain of influenza, was also linked to downstream damage from clots that could end lives dramatically.
- The Viruses including HIV, dengue and Ebola are all known to make blood cells prone to clumping.
- The pro-clotting effect may be even more pronounced in patients with the coronavirus.

Issues of Blood Clotting's in Covid-19 Patients:

- If untreated, Large Arterial lung clots can put overwhelming strain on the heart, causing cardiac arrest. Even tiny clots in the capillaries of lung tissue may interrupt blood flow, undermining attempts to help oxygenate patients with ventilators.
- These Clots may form in other parts of the body, potentially damaging vital organs including the heart, kidneys, liver, bowel, and other tissues.
- The Covid-19 survivors who have subsequent difficulty breathing, might mistakenly believe it's a recurrence of coronavirus infection, when it may actually be a reactivation of the whole clotting problem.
- The Pulmonary embolism also causes **Pulmonary Hypertension**, Another Dangerous complication that can cause fatigue and shortness of breath.
- Risk: Patients and doctors alike may not be aware of the risks or the Potential need for Treatment.

