



# Multisystem Inflammatory Syndrome in Children

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## Why in News

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Recently, the World Health Organization (WHO) has released fresh guidelines for treating children who developed Multisystem Inflammatory Syndrome (MIS-C) after being exposed to Covid-19 infection.

## Key Points

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- **About:**
  - MIS-C is a condition where **various organs of the body are affected by inflammation**. The patient develops heart problems, the severity of which may determine the line of treatment.
  - It is a **rare but severe hyperinflammatory condition** in children and adolescents that **typically occurs 2-6 weeks after a Covid-19 infection**.
  - It is a potentially deadly condition where different body parts can become inflamed, including the **heart, lungs, kidneys, brain, skin, eyes, or gastrointestinal organs**.
  - Children with MIS-C may have a fever and **various symptoms**, including abdominal (gut) pain, vomiting, diarrhea, neck pain, rash, bloodshot eyes, or feeling extra tired.
- **MIS-C with Neurological Complications:**
  - In a recent study, **young people with the MIS-C syndrome have shown neurological issues** which were life-threatening such as strokes or severe encephalopathy (any brain disease that alters brain function or structure).
  - **Neurological symptoms** include hallucinations, confusion, speech impairments, and problems with balance and coordination.
  - The new findings strengthen the theory that the **syndrome is related to a surge of inflammation triggered by an immune response** to the virus.
- **Causes of MIS-C:**
  - As the Syndrome is less researched, there are **varied theories** as to what causes MIS-C.
  - While some researchers believe that **MIS-C is a delayed response to the coronavirus** which in turn causes massive inflammation in the body and as a result damages organs.
  - Others believe that it can also **be a result of the children's immune response making antibodies against the virus**.
  - There may be a **genetic component as not every child develops MIS-C** and the presenting symptoms are so varied.

- **WHO Guidelines for Treatment:**

- It is suggested to use **corticosteroids in addition to the standard of care for Kawasaki disease** (conditional recommendation, very low certainty) in hospitalised children (**0-18 years of age**).
  - Commonly referred to as steroids, **corticosteroids are a type of anti-inflammatory drug.**
  - Corticosteroids along with supportive care resulted in a more effective treatment than either **intravenous immunoglobulin plus supportive care** or supportive care alone.
  - The treatment was also found to be effective in treating children with **Kawasaki disease** in association to **Covid-19**.
- Not to use corticosteroids in the treatment of patients **with non-severe Covid-19 as the treatment brought no benefits**, and could even prove harmful.

### **Kawasaki Disease**

- It is an **acute inflammatory disease of the blood vessels** and usually occurs in children below the age of five.
- The inflammation in the coronary arteries that are responsible for supplying blood to the heart **results in enlargement or in the formation of aneurysms** (swelling of the wall of an artery), leading to heart attacks.
- **Symptoms:** Fever, rashes, redness of the cornea, red and cracked lips, a red tongue and lymph node enlargement of the neck.

**Source: DTE**