ORIGINAL RESEARCH PAPER

Nursing

KEY WORDS:

COVID-19: MULTISYSTEM INFLAMMATORY SYNDROME IN CHILDREN

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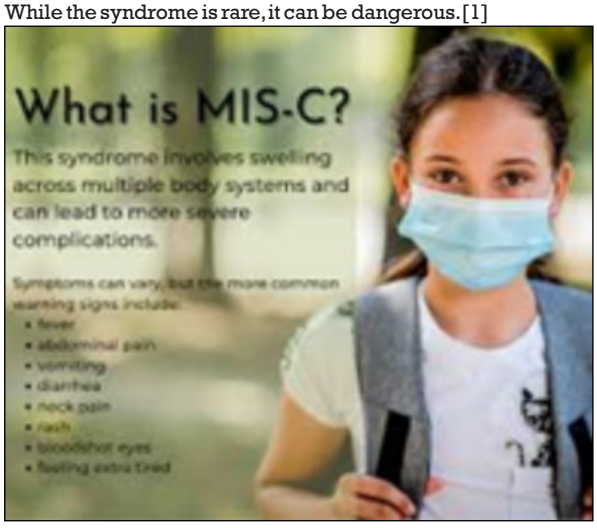
Multisystem inflammatory syndrome in children (MIS-C) was first identified in April 2020 by doctors at children's hospitals in the United States and the United Kingdom. The condition has also been called pediatric inflammatory multisystem syndrome (PIMS). MIS-C is an illness that can occur after COVID-19 infection and affects mostly school-age children. While the syndrome is rare, it can be dangerous.[1]



Causes

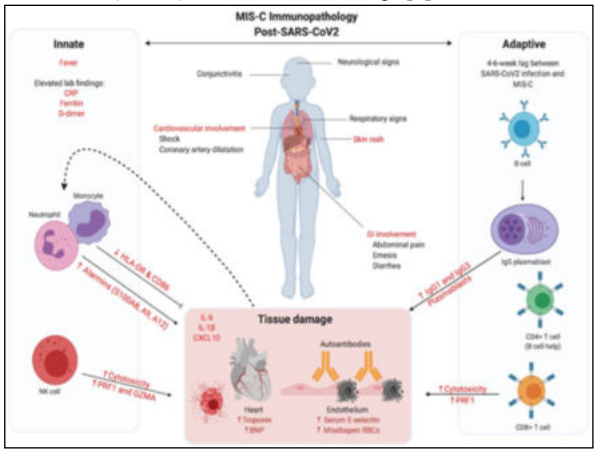
The exact cause of MIS-C is not known yet, but it appears to be an excessive immune response related to COVID-19. Many children with MIS-C have a positive antibody test result. This means they've had a recent infection with the COVID-19 virus. Some may have a current infection with the virus.

Risk Factors

In the U.S., more Black and Latino children have been diagnosed with MIS-C compared with children of other races and ethnic groups. Most children with MIS-C are between the ages of 3 and 12 years old, with an average age of 8 years old. Some cases have also occurred in older children and in babies.

Symptoms

Signs and symptoms of multisystem inflammatory syndrome in children (MIS-C) include the following,.[2]



- Fever that lasts 24 hours or longer
- Vomiting
- Diarrhea
- Pain in the stomach
- Skin rash
- Feeling unusually tired
- Fast heartbeat
- Rapid breathing
- Red eyes
- Redness or swelling of the lips and tongue
- Redness or swelling of the hands or feet
- Headache, dizziness or lightheadedness
- Enlarged lymph nodes

Emergency Warning Signs Of MIS-C

- Severe stomach pain
- Difficulty breathing
- Pale, gray or blue-colored skin, lips or nail beds — depending on skin tone
- Confusion
- Inability to wake up or stay awake

Diagnosis

- Lab tests, such as blood and urine tests, including tests that look for an abnormal level of inflammatory markers in the blood
- Imaging tests, such as a chest X-ray, an echocardiogram, an abdominal ultrasound or a CT scan
- Other tests, depending on signs and symptoms[4]
- Treatment

Most children with MIS-C need to be treated in a hospital. Some need treatment in a pediatric intensive care unit. Treatment usually involves supportive care and measures to reduce inflammation in any affected vital organs to protect them from permanent damage.

Treatment depends on the type and severity of symptoms and which organs and other parts of the body are affected by inflammation.[4]

Supportive Care May Include:

- Fluids, if levels are too low (dehydration)
- Oxygen to help with breathing
- Blood pressure medications to normalize low blood pressure related to shock or to help with heart function
- A breathing machine (ventilator)
- Medications that reduce the risk of blood clots, such as aspirin or heparin
- In very rare cases, extracorporeal membrane oxygenation (ECMO) using a machine that does the work of the heart and lungs
- Other types of care

Treatment to reduce swelling and inflammation may include:

- Antibiotics
- Steroid therapy
- Intravenous immunoglobulin (IVIG), a blood product made up of antibodies
- Other types of treatment, such as targeted therapies aimed at reducing high levels of proteins called cytokines, which can cause inflammation

There is no evidence that MIS-C is contagious. But there's a chance that the child could have an active infection with the

COVID-19 virus or another type of contagious infection. So the hospital will use infection control measures while caring for your child

Complications

Many specialists consider MIS-C to be a complication of COVID-19. Without early diagnosis and appropriate management and treatment, MIS-C can lead to severe problems with vital organs, such as the heart, lungs or kidneys. In rare cases, MIS-C could result in permanent damage or even death.[3]

While the earlier waves of the coronavirus disease 2019 (COVID-19) pandemic relatively spared children, some of the affected children have developed a systemic inflammatory condition, with occasionally fatal outcomes. The prognosis of MIS-C is uncertain as long-term follow-up data are limited. The overall mortality rate is approximately 1 to 2 percent. Most children with cardiac involvement have recovery of function by hospital discharge. Children with cardiac dysfunction should have follow-up with cardiology after discharge[5].Children's health is one of the most important issues in the Sustainable Development Goals(SDGs). Preserving children's well being during stressful times such as pandemic needs greater attention now a days.

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