

Paediatric Multi-Symptom Inflammatory Syndrome

This is a syndrome which is believed to be linked to COVID-19.

A 5-year-old boy in New York became the first child in the United States to die from this condition. A 14-year-old boy in the United Kingdom has also died from the inflammatory syndrome.

The syndrome mirrors symptoms of other inflammatory diseases such as Kawasaki disease and toxic shock like syndrome. During a period of 10 days in mid-April 2020 the paediatric intensive care support departments in the South East of London noted an unprecedented cluster of eight children with hyperinflammatory shock, showing features similar to atypical Kawasaki disease. A normal typical number is about one or two children per week.

All of the children were previously fit and well. Six of the children were of Afro-Caribbean descent and five of the children were boys. All children except one were well above the 75th centile for weight, meaning they were overweight. Four of these children had known family exposure to COVID-19.

Clinical Presentations

They were similar with:

- Unrelenting fever 38-40°C
- Variable rash
- Conjunctivitis
- Peripheral oedema
- Generalised extremity pain
- Significant gastrointestinal symptoms

All of the children progressed to shock refractory to volume resuscitation and requiring haemodynamic support.

Most of the children had no significant respiratory involvement, although seven of the children required mechanical ventilation for cardiovascular stabilisation.

Other notable features included the development of small fluid filled areas around the lungs in the pleura, pericardium, the lining of the heart and ascitic effusions in the lining of the abdomen. This suggested a diffuse inflammatory process.

Interestingly, all children tested negative for COVID-19 on washings from the lungs and/or nasopharyngeal aspirates. This was despite them being critically unwell with laboratory evidence of infection or inflammation including elevated concentrations of C-reactive protein and other inflammatory markers.



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LGP

114a Harley Street, London W1G 7JL

(entrance on Devonshire St, between

Harley St & Portland Place)

T +44 (0)20 7935 1000 (24/7 home visits)

F +44 (0)20 7935 1122

E info@thelondongeneralpractice.com

W www.thelondongeneralpractice.com

No pathological organisms were identified in seven of the children.

Common echocardiographic findings were echo-bright coronary vessels which progressed to giant coronary aneurysm in one patient within a week of discharge from the paediatric intensive care. One child also developed an arrhythmia with refractory shock requiring life support and sadly died from a large cerebrovascular infarct (stroke).

Following treatment, all of the children were discharged from paediatric intensive care after four to six days. Since discharge, two of the children have tested positive for COVID-19 including the child who sadly died where the COVID-19 was detected at post-mortem. All of the children are receiving ongoing surveillance for coronary abnormalities.

It is suggested by the authors of the paper in the Lancet, Shelley Riphagen and others that this clinical picture represented a new phenomenon affecting previously asymptomatic children with COVID-19 infection. This manifested as a hyperinflammatory syndrome with multi-organ involvement similar to Kawasaki disease shock syndrome.

Parents should seek immediate care if a child has:

- Prolonged fever more than five days
- Difficulty feeding as an infant or is too sick to drink fluids
- Severe abdominal pain diarrhoea or vomiting
- Change in skin colour, becoming pale, patchy or blue
- Trouble breathing or breathing very quickly
- Racing heart or chest pain
- Decreased amount of frequency in urine
- Lethargy
- Irritability or confusion

The London General Practice would argue that if your child, infant or baby does not appear as it has or should do then please ring us immediately for urgent advice or in the event of an extreme critical emergency dial 999.

The London General Practice

Dr Paul Ettlinger Founder
BM, DRCOG,
FRCGP, FRIPH,
DOccMed
GMC No 2716635

Dr Stuart Sanders
MB, ChB, FRCGP,
DCH, DRCOG,
MRCS, LRCP
GMC No 0703523

Dr Sam Bennett
Bsc (Hons), MBBCh,
MRCS, MRCGP,
DOccMed
GMC No 6029096

Dr Catrin Bevan
MBBS,
DRCOG
GMC No 3080865

Dr Angela Rai
MBBS, MRCGP,
DRCOG, BSc, DCH,
PGDip Cardiology
GMC No 4634777

Dr Sanjay Mehta
MBBS, MRCGP,
BSc, DCH, DRCOG,
AICSM
GMC No 7419233

Dr Ravleen Sabharwal
MBBS, BSc,
MRCP, DRCOG,
MRCGP
GMC No 6143206