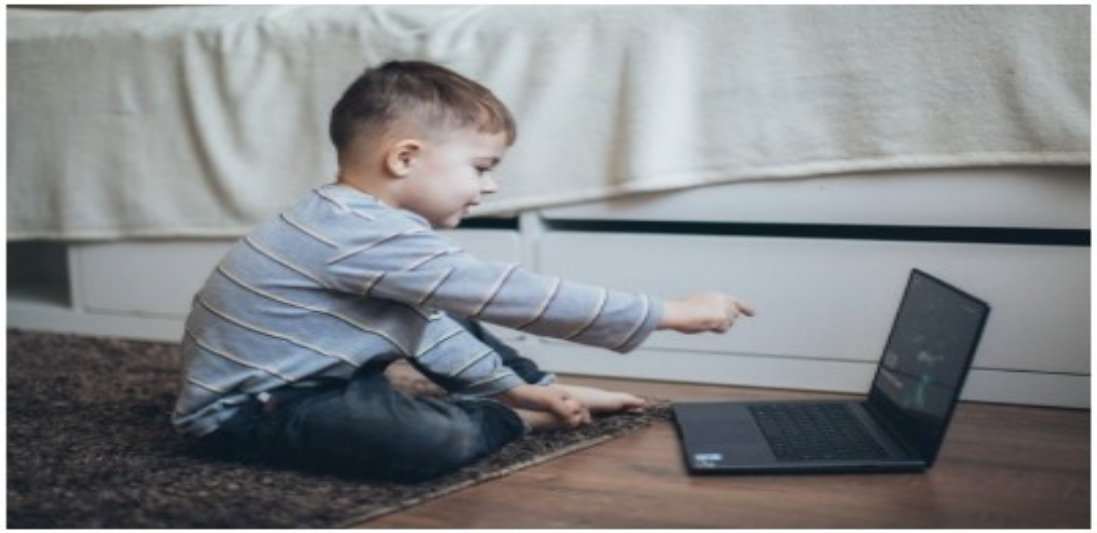
PEM INTERACTIVE WEBINAR: DELAYED PRESENTATIONS AND PIMS-TS, A NEW DISEASE ENTITY TO WORRY ABOUT?

MAY 11, 2020



Wednesday May 13, 14:00 CEST

Many of us are wondering why children with serious illness are not coming to EDs or presenting very late in their disease course. And is this really so or just anecdote? Can we expect a spike in late presentations with easing of lockdowns throughout Europe?

Many of us are wondering if the PIMS-TS syndrome should alter their practice, when to do tests / what tests to do, what the natural disease course is etc. Many haven't actually seen patients; or they might have seen cases where in retrospect they suspect the disease.

Our speakers Dr. Damian Roland and Dr. Marilyn McDougall will have valuable contributions to your questions. Both are excellent speakers and leaders in their fields.

Register now and don't miss this opportunity to share your cases and ask your questions in this interactive webinar.

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PAEDIATRIC WEBINAR COVID-19:
Delayed presentations and PIMS-TS, a new disease entity to worry about?

Name: Damian Roland
Position: PEM Consultant and Chair of PERUKI
Country: United Kingdom

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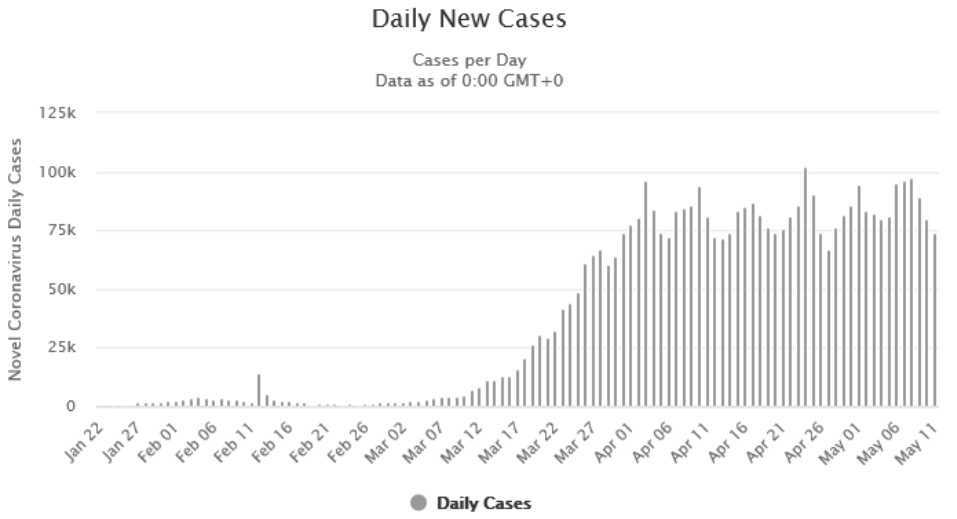
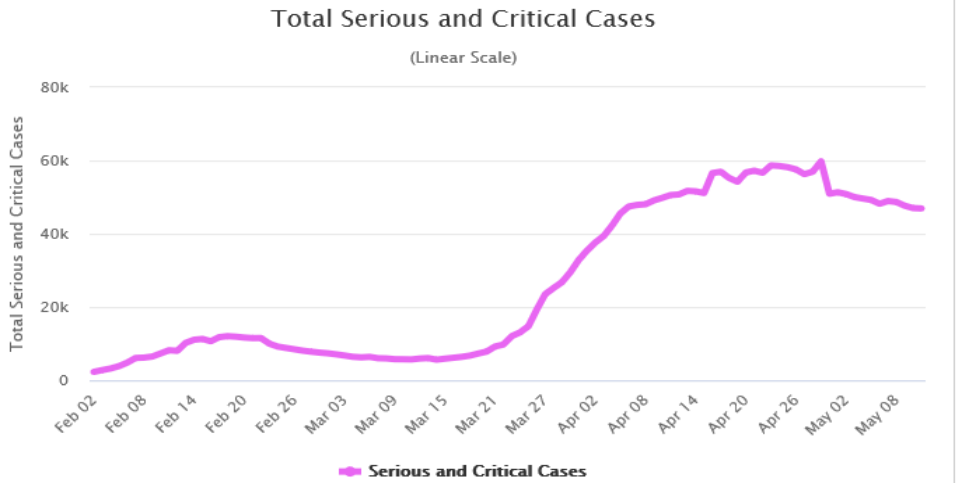
Paediatric Multi-system Inflammatory Syndrome temporally associated with SARS-CoV-2: PIMS-TS
Something to worry about ??

Name: Marilyn McDougall
Position: Paediatric Intensive Care Consultant
Country: United Kingdom

Evelina London

April 2020 …





Source: Worldometer - www.worldometers.info

Don't Forget The Bubbles

South Thames RETRIEVAL SERVICE for children

- Italy, China & USA
- Significantly milder
- Overrepresentation : comorbities

Clinical and epidemiological features of 36 children with coronavirus disease 2019 (COVID-19) in Zhejiang, China: an observational cohort study

Haiyan Qiu, Junhua Wu*, Liang Hong, Yunling Luo, Qifa Song, Dong Chen*

The NEW ENGLAND JOURNAL of MEDICINE

CORRESPONDENCE

Children with Covid-19 in Pediatric Emergency Departments in Italy

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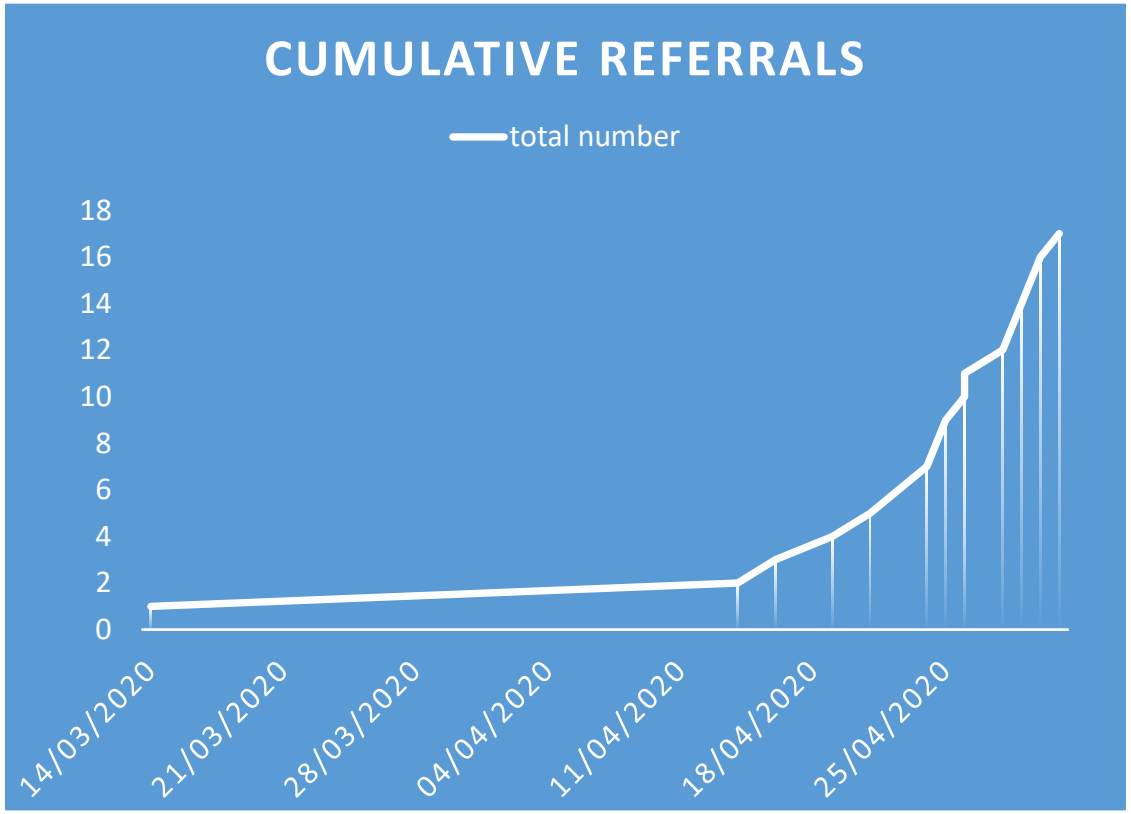
Unexpected events …



Hyperinflammatory shock in children during COVID-19 pandemic

South Thames Retrieval Service in London, UK, provides paediatric intensive care support and retrieval to 2 million children in South East England. During a period of 10 days in mid-April, 2020, we noted an unprecedented cluster of eight children with hyperinflammatory shock, showing features similar to atypical Kawasaki disease, Kawasaki disease shock syndrome,[1] or toxic shock syndrome (typical number is one or two children per week). This case cluster formed the basis of a national alert.

All 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

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COVID-19

RCPCH
Royal College of Paediatrics and Child Health
Leading the way in Children's Health

Guidance: Paediatric multisystem inflammatory syndrome temporally associated with COVID-19

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Guidance: Paediatric multisystem inflammatory syndrome temporally associated with COVID-19

Case definition:

1. A child presenting with persistent fever, inflammation (neutrophilia, elevated CRP and lymphopaenia) and evidence of single or multi-organ dysfunction (shock, cardiac, respiratory, renal, gastrointestinal or neurological disorder) with additional features (see listed in Appendix 1). This may include children fulfilling full or partial criteria for Kawasaki disease.

2. Exclusion of any other microbial cause, including bacterial sepsis, staphylococcal or streptococcal shock syndromes, infections associated with myocarditis such as enterovirus (waiting for results of these investigations should not delay seeking expert advice).

3. SARS-CoV-2 PCR testing may be positive or negative

All stable children should be discussed as soon as possible with specialist services to ensure prompt treatment (paediatric infectious disease / cardiology / rheumatology*). There should be a low threshold for referral to Paediatric Intensive Care using normal pathways.

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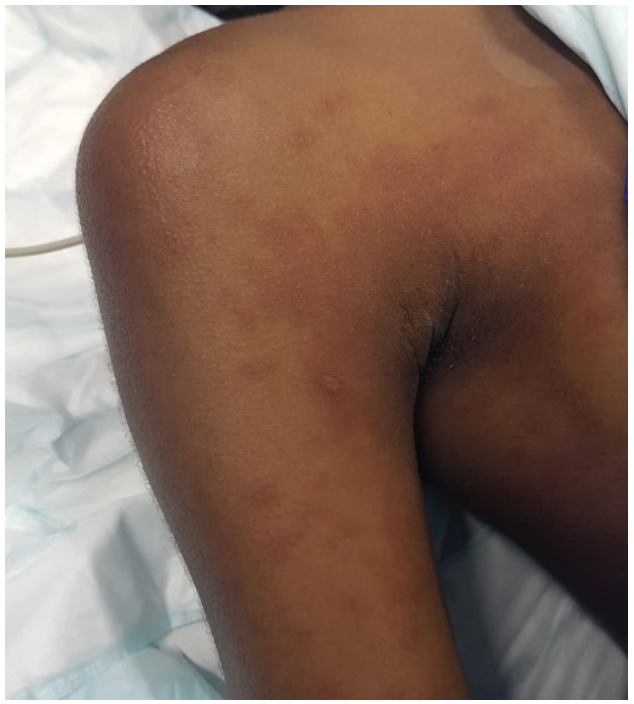
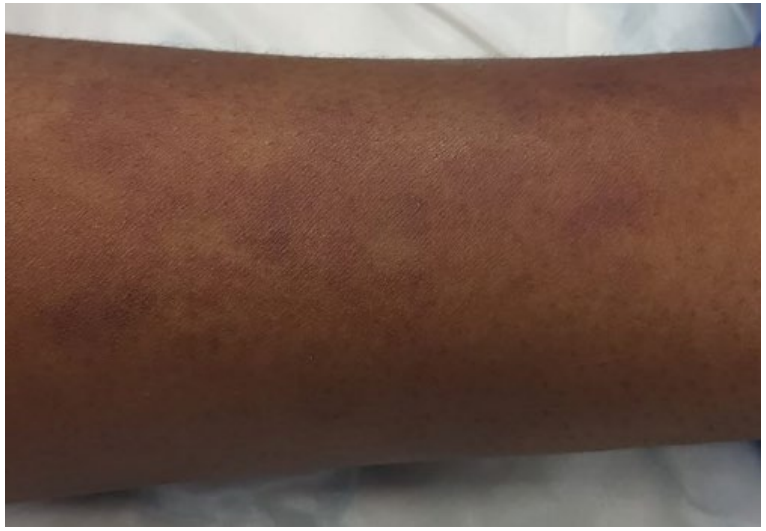
Presentation

History

Clinical Signs

- Fever > 39^0C
- Skin and mucosal signs
- Gastrointestinal
  - Abdominal Pain
  - Diarrhoea
- Vasodilatory Shock
- Alert / lethargic





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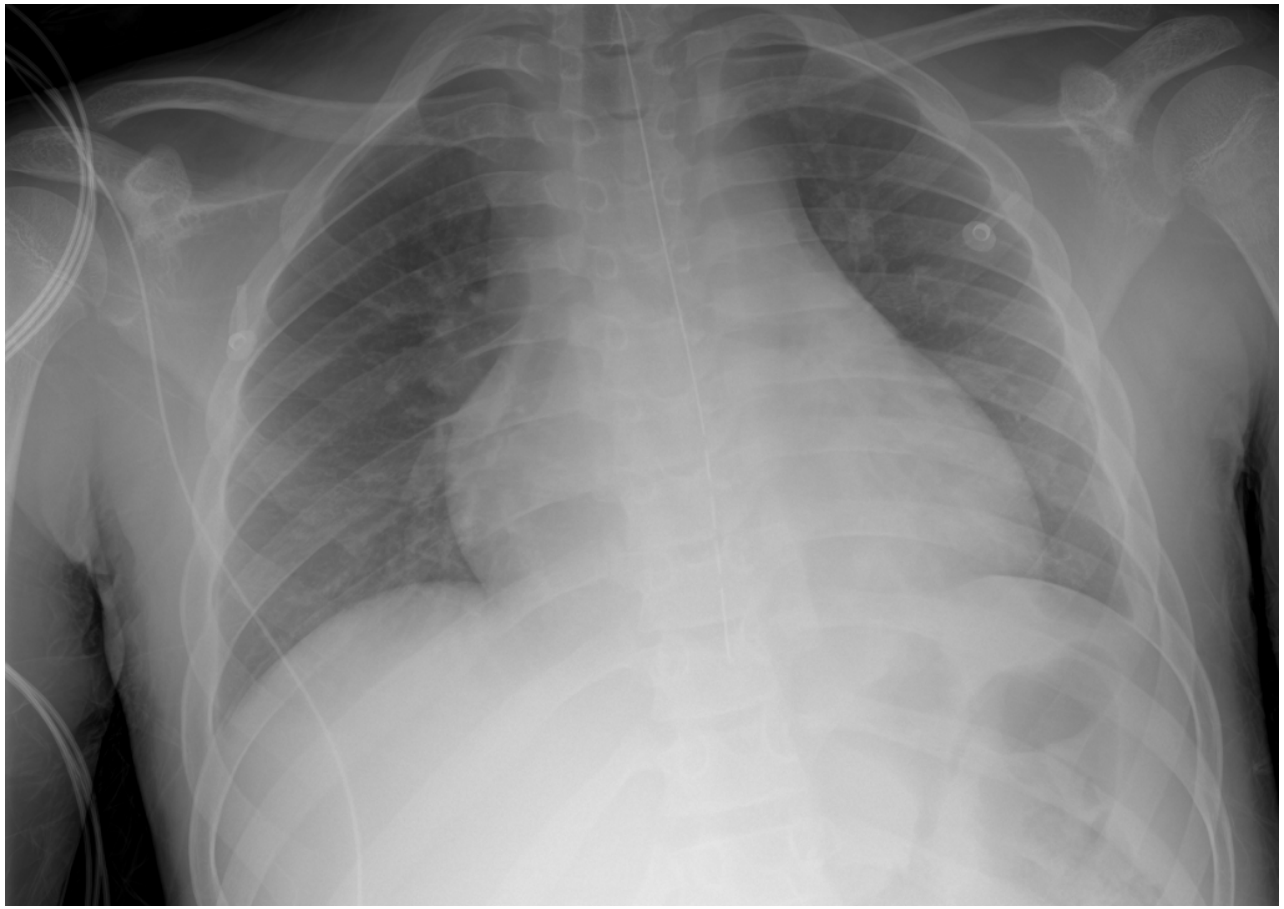
Investigations

Blood Results

- Low Sodium
- Elevated white cell count
  - Lymphopaenia
- Inflammatory Markers
  - CRP >100
  - PCT
  - Ferritin >500
  - Fibrinogen
- Cardiac Enzymes
  - Troponin
  - Pro_BNP

Other Investigations



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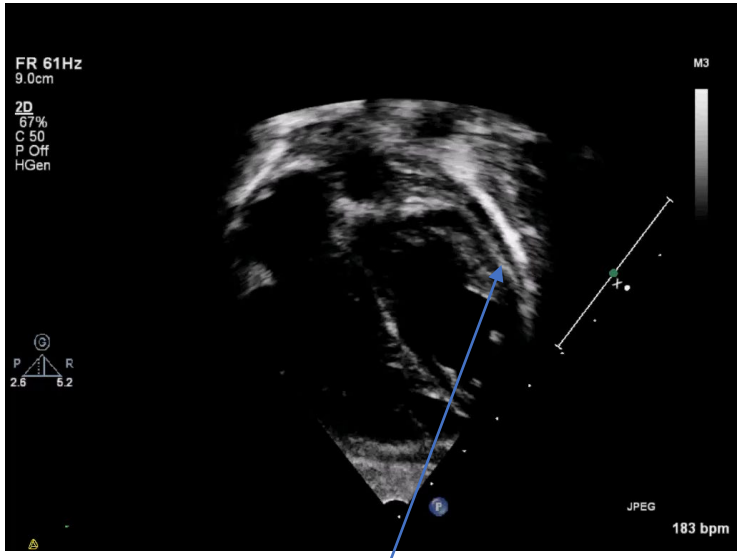
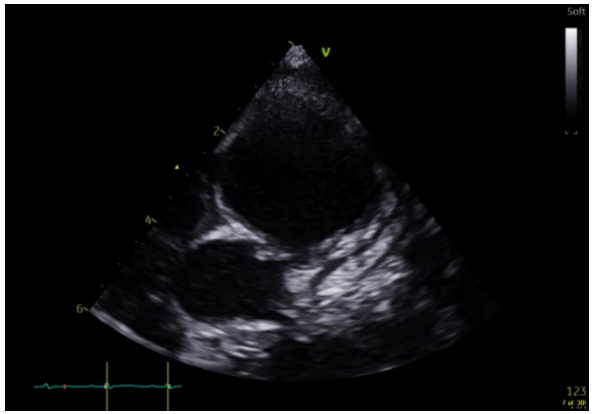
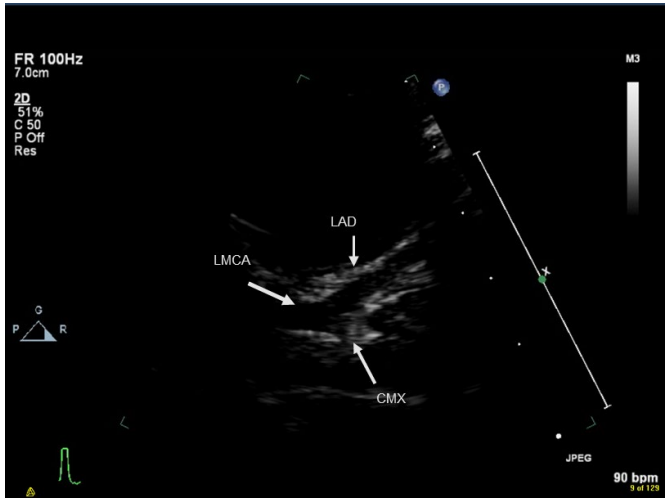
Pancarditis

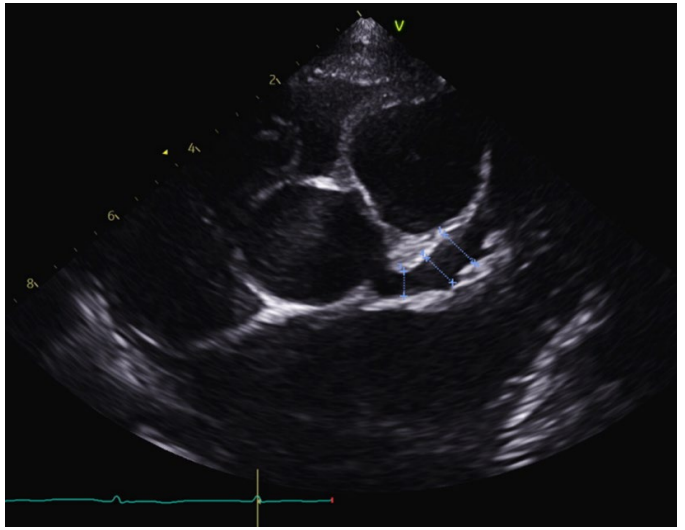


Pericardial effusion

Coronary arteries







Immediate Management

- Fluid resuscitation
  - 5-10ml/kg aliquots
- Vasopressors (movement)
  - Central IV access
  - Noradrenaline or Vasopressin
- Respiratory support :
  - non-invasive ventilation
  - Invasive
- Echocardiogram guide inotrope therapy
  - Function & coronary changes

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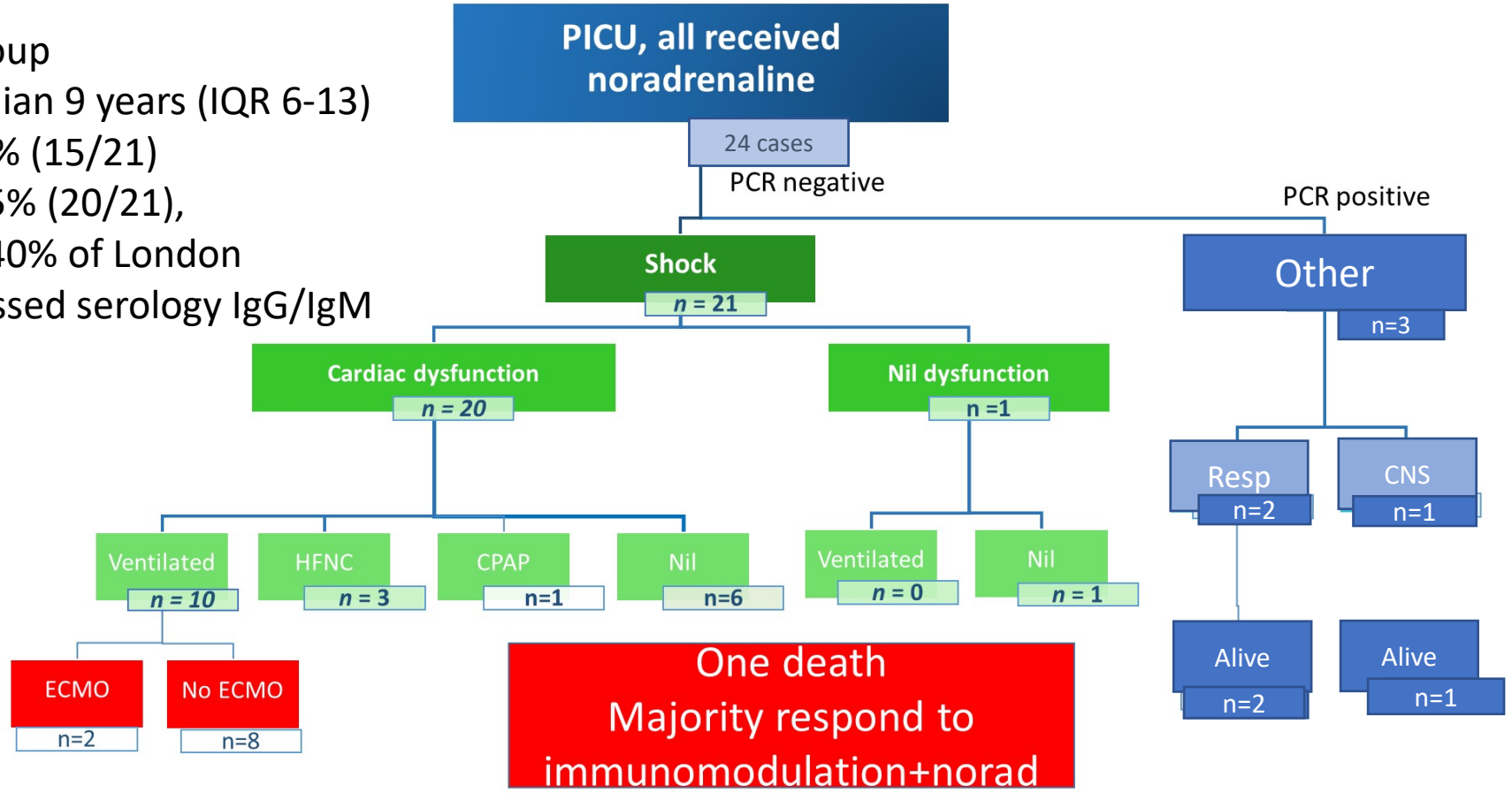
Admitted 14th April-5th May

Shock group
Age: median 9 years (IQR 6-13)
Male: 71% (15/21)
BAME: 95% (20/21),
BAME: ~40% of London
All processed serology IgG/IgM positive

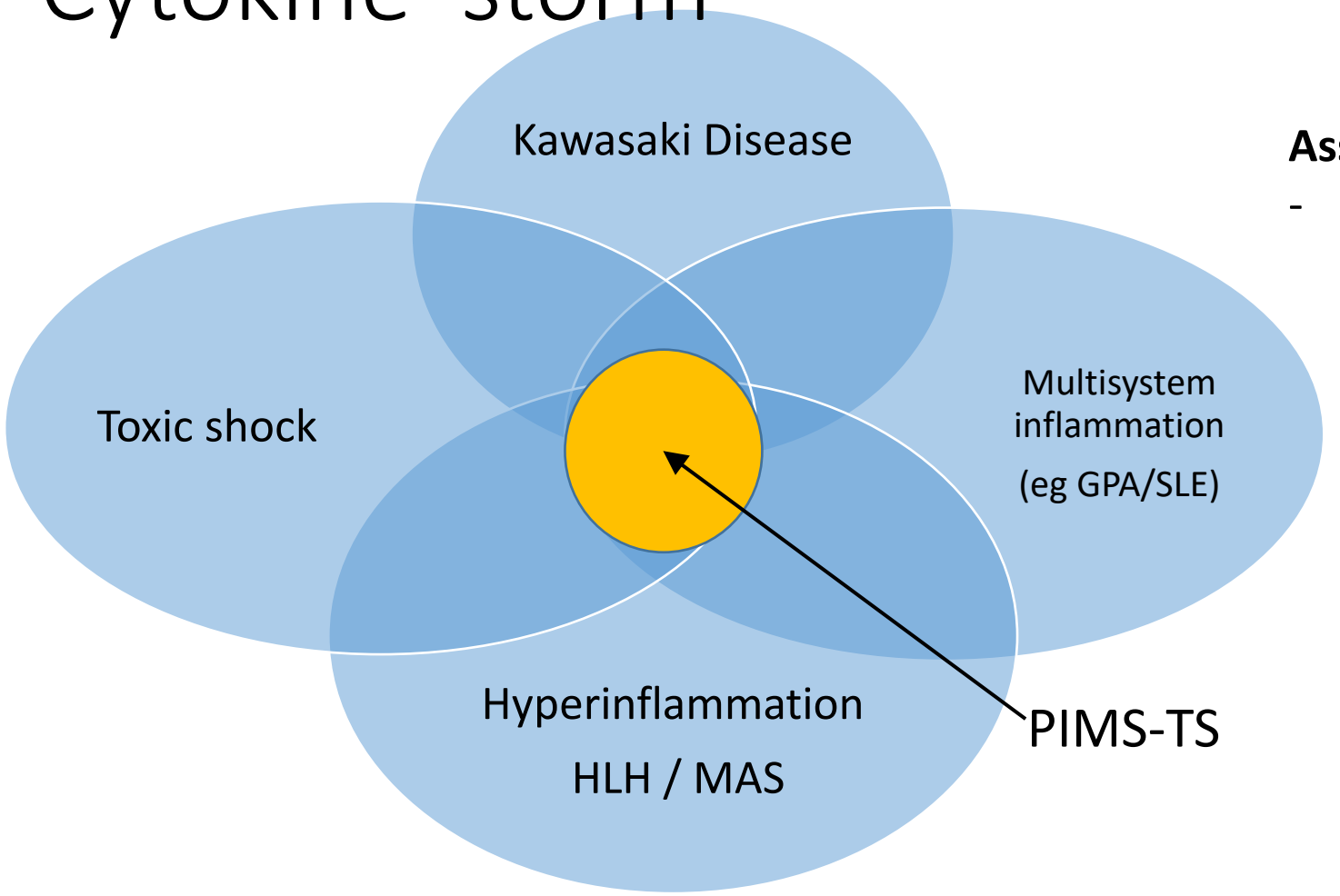


Laboratory values

Laboratory Data Evelina- median [IQR]		
	Presentation	Peak
White cell count	10.7 (9.6-14)	18.6 (14.2-22.4)
Lymphocyte Count*	1 (0.5-1.3)	0.4 (0.3-0.7)
Platelets*	150 (96 – 172)	129 (82 – 165)
CRP	211 (162 – 306)	307 (187 – 340)
D-dimers	6.44 (3.7-10.2)	11.2 (6.5 -13.3)
Ferritin (µg/L) (14 -101)	924 (460 – 1534)	1023 (642 – 1834)
Troponin T (ng/L) (0-13)	45 (25 – 120)	110 (45 -251)
NT – pro BNP (ng/L) (< 400 normal)	4708 (1542 - 9376)	7377 (3280 – 15670)

* Minimum value

Cytokine storm



Assessment criteria

- Unpredictable
  - Course
  - Response to Rx

Treatment

- Immunomodulation
  - IVIG
  - Steroid
  - Biologic :
  - Anakinra
  - Infliximab
  - Tocilizumab

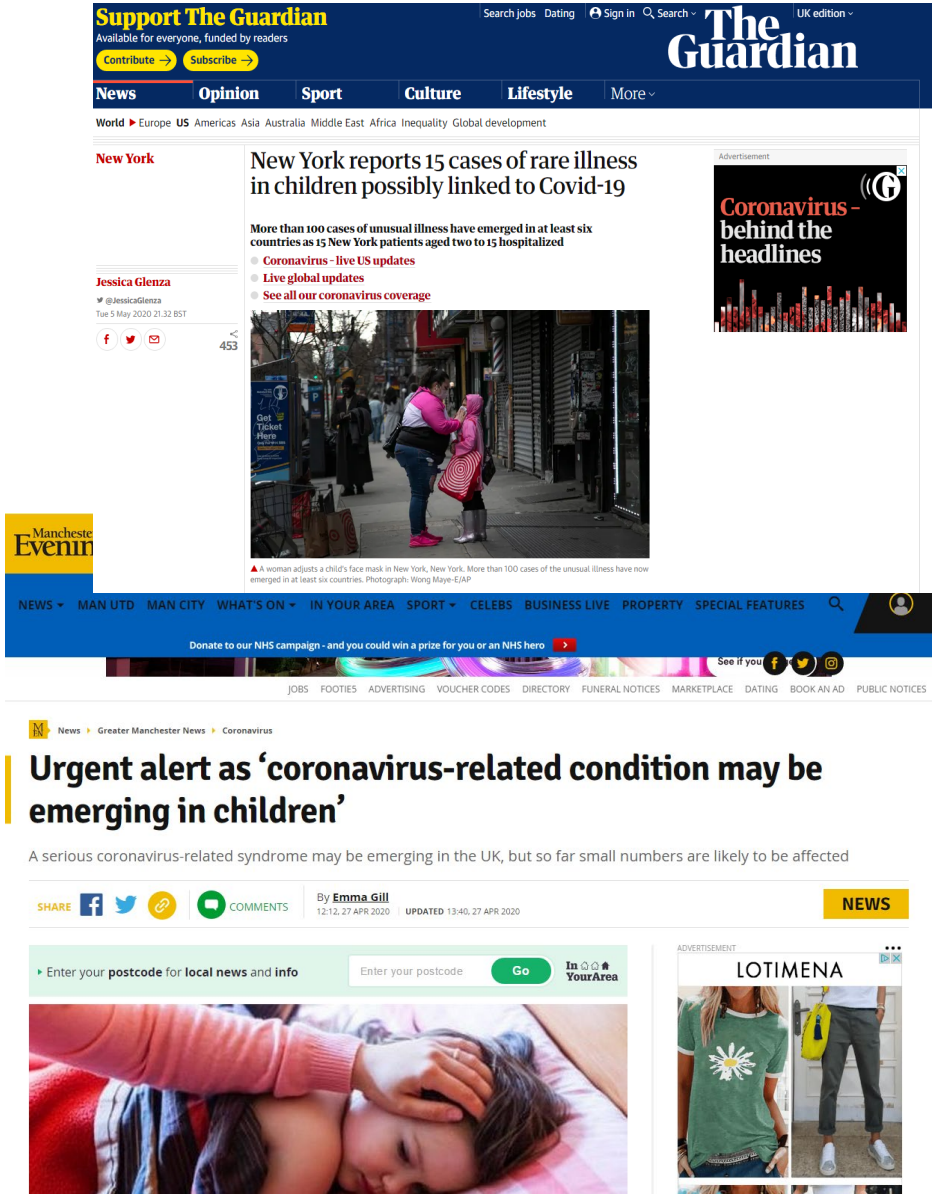
Management of sequelae

PIMS-TS Novel condition

Ongoing Assessment & management
- Proactive and reactive

Multidisciplinary team involvement
- Organ specific features
  - PICU
- Cardiac specific
  - Cardiology team
- Infectious manifestations
  - PID team
- Inflammatory parameters
  - Rheumatology
- Sequelae
  - haematology team / psychology

Research



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