COVID-19 – Paediatric Inflammatory Syndrome and Stroke

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Sources: several – see below

Undiagnosed Paediatric Inflammatory Syndrome - United Kingdom (1)
PICS (Paediatric Intensive Care Society, UK) reported on the 27th April a small rise in the number of cases of critically ill children presenting with an unusual clinical picture. Many of these children had tested positive for COVID-19, while some had not. The alert indicated "the cases have in common overlapping features of toxic shock syndrome and atypical Kawasaki disease with blood parameters consistent with severe COVID-19 in children. Abdominal pain and gastrointestinal symptoms have been a common feature as has cardiac inflammation".

Large vessel stroke and COVID-19 (2)
A short report in the NEJM reported five cases of large-vessel stroke in patients younger than 50 years of age who presented to our health system in New York City. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection was diagnosed in all five patients.

Coagulopathy (3)
Coagulopathy and vascular endothelial dysfunction have been proposed as complications of COVID-19 (3) and was reported during the SARS-CoV-1 outbreak (4). A recent review discusses coagulation and COVID-19 (5).

EITaF Comment
The pandemic is now slowing in Europe and North America and new clinical presentations are being reported.

So far – to our knowledge – the “Paediatric Inflammatory Syndrome” has only been reported in the UK, but even if rare it is important to be aware that infection with SARS-CoV-2 may have clinical presentations which in the heat of the outbreak have been overlooked.

The same with “large vessel stroke” and COVID-19. These reports follow the recent paper from Mao et al, showing a wide variety of CNS problems in hospitalised patients in Wuhan, present in about 45% of those admitted with severe disease (although some might be related to expected comorbidities) (6). CNS disease related to COVID-19 is discussed in a concise editorial in the same journal (7).

No doubt there is a disregulation of the coagulation system with pulmonary embolism also being reported despite standard heparin prophylaxis. Studies are needed of critically ill COVID-19 patients to determine the coagulation status and the best therapy, both during admission and following discharge from intensive care in particular.
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Infection and Prevention Control in the time of COVID-19 - part 1:
https://eacademy.escmid.org/escmid/2020/covid-19/293255/j.rodriguez.bano.e.tacconelli.m.vos.a.baller.d.dusek.n.mutters.a.w.friedrich.n.html?f=menu%3D8%2Abrowseby%3D8%2Asortby%3D2%2Alabel%3D19858

Infection and Prevention Control in the time of COVID-19 - part 2:
https://eacademy.escmid.org/escmid/2020/covid-19/293257/n.petrosillo.e.presterl.j.p.stahl.m.sanguinetti.ergnl.h.rautelin.c.tsioutis.26.html?f=menu%3D8%2Abrowseby%3D8%2Asortby%3D2%2Alabel%3D19858

Sources

1. A ProMED-mail post, 27th April 2020 http://www.promedmail.org ProMED-mail is a program of the International Society for Infectious Diseases http://www.isid.org. Increased number multisystem inflammatory disease – PICS statement.


