

SYNOPSIS

05/17/2020

Review of “Severe COVID-19 in children and young adults in the Washington, DC metropolitan region”

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One-Minute Summary

- Medical records of **177 children and young adults with coronavirus disease 2019 (COVID-19) treated between Mar 15–Apr 30, 2020 at a medical centre in Washington, DC** were retrospectively reviewed to determine any association between specific epidemiologic and clinical features with hospitalization and/or critical care.
- 44/177 (25%) patients required hospitalization:
 - 14/44 (32%) <1 year old and 14/44 (32%) ≥15 years old ($P = .07$)
 - **9/44 (20.5%) required critical care:**
 - 6/9 (66%) were ≥ 15 years old ($P = .02$)
 - **8/9 (89%) required respiratory support**
 - 1/9 developed Kawasaki-like shock syndrome
- Comparing **patients who were hospitalized** with those non-hospitalized:
 - **Underlying conditions were more common among hospitalized vs non-hospitalized patients:** 27/44 (61%) vs. 42/133 (32%); $P = .001$. In particular:
 - Neurological disorders: 8/44 (19%) vs. 3/133 (2%); $P < .001$
 - Cardiac conditions: 4/44 (9%) vs. 1/133 (1%); $P = .004$
 - Hematologic conditions: 4/44 (9%) vs. 2/133 (2%); $P = .004$
 - Oncologic conditions: 2/44 (5%) vs. 0/133 (0%); $P = .013$
 - **Shortness of breath was more common:** 11/44 (26%) vs. 16/133 (12%); $P = .04$
- Comparing **hospitalized patients who were critically ill** with those non-critically ill:
 - **Median age was significantly higher:** 17.3 years vs. 3.6 years; $P = .04$
 - Presence of overall underlying conditions was not statistically different—7/9 (78%) vs. 20/35 (57%); $P = .45$
 - Fever or other specific symptoms were no more likely to be present
- The authors caution that the COVID-19 response needs to **prepare for a significant burden of hospitalized and critically-ill children and young adults.**

Additional Information

- The authors postulate that higher population density and higher representation of ethnic minorities in their region might contribute to the increased severity of COVID-19 in their pediatric and young adult patients.
- Asthma is not the primary determinant of more severe disease requiring hospitalization.
- No deaths were reported but critically ill patients remained admitted on mechanical ventilation up to the time of report.
- Viral co-infection—found in 4 (6%) of 63 patients tested— was not associated with severity of COVID-19 disease.
- Besides shortness of breath, other symptoms noted in the 177 patients include:
 - Fever: 116/177 (66%)
 - Fever together with respiratory symptoms: 85/177 (48%)
 - Diarrhea or vomiting: 27/177 (15%)
 - Myalgia: 25/177 (14%)
 - Chest pain: 16/177 (9%)
 - Loss of sense of taste and/or smell: 15/177 (9%)
- In addition, the following symptoms were more likely to be observed in non-hospitalized than hospitalized patients:
 - Cough: 83/133 (62%) vs. 16/44 (37%); P = .003
 - Sore throat or congestion: 66/133 (50%) vs 11/44 (25%); P = .004
 - Headache: 24/133 (18%) vs 1/44 (2%); P = .01
- Although the medical centre provides critical care for young adult COVID-19 patients in the region, the authors do not expect that to bias the analysis, as only two such hospitalized patients were included in this review.

PHO Reviewer's Comments

- Although rare, severe illness in pediatric patients has been reported by various authors including: [Sun D et al.](#), [Zheng F et al.](#), [Liu W et al.](#), [Lu X et al.](#) and [Dong Y et al.](#) (China); [Riphagen S et al.](#) (the United Kingdom); [CDC](#), [Chao JY et al.](#) and [Shekerdemian LS et al.](#) (the United States).

Citation

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