SYNOPSIS

05/17/2020

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


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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