Letter to the Editor

Lung ultrasound cannot be used to screen for Covid-19 in children

Dear Editor,

We read with interest "Point-of-Care Lung Ultrasound findings in novel coronavirus disease-19 pnemoniae: a case report and potential applications during COVID-19 outbreak"[1], in which the authors state that ultrasound can be a screening tool to detect COVID-19.

We report on an 8-year-old child who presented to our Pediatric Emergency Department after five days of high fever, headache and intermittent abdominal pain, without rhinorrhea, cough, vomiting or diarrhea. He lived in an area with a higher prevalence of COVID-19. RT-PCR for SARS-CoV-2 from nasopharyngeal secretions was positive. His pulse rate was 112 beats per minute, blood pressure 124/70 mmHg, and oxygen saturations were 97% in room air. Physical examination was unremarkable. Complete blood count and chemistries were normal, and C-reactive protein was 2.2 mg/dL. Given the persistent fever, point of care ultrasound was done with a linear probe to screen for pneumonia. All areas of the chest, upper back and axillae were interrogated from apices to the diaphragm. He had A-lines throughout without pleural irregularities or effusion and was discharged home to continue symptomatic care. Of 110 symptomatic children screened at our facility for SARS-CoV-2 since March 7, this child was the only child with a positive RT-PCR.

As illness progresses, adults show pathology on imaging of the lung. In one series, 56% of CTs done within the first two days[2], and in another 17% in the first four days[3], were normal. Thereafter, none were normal. A series of over a thousand patients found that CT had 97% sensitivity for detecting COVID-19 on RT-PCR[4]. Others have similarly found pathology on all COVID patients on CT[5,6] and on ultrasound[7].

In children, early reports on only 24 children from the People's Republic of China also show that a normal CT is a rare finding in COVID-19[8,9]. Children comprise 1.7% of COVID-19 cases in the US, and appear to present differently than adults[10]. Given that few children have COVID-19 and, particularly in winter, the prevalence of respiratory illnesses is high (with co-infection with COVID-19 in 40%[8]), the pretest probability of COVID-19 in children is low. That, together with the normal lung ultrasound on the patient we present here, convince us that ultrasound, though useful in many other scenarios, is a poor screening tool for COVID-19 in children.

Conflict of Interest

The Authors declare that they have no conflict of interests.

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