



Informed consent has been obtained from parents for incorporating the patient details and clinical photographs into the manuscript.

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References

- 1 Rowell NR, Beck JS, Anderson JR. Lupus erythematosus and erythema multiforme-like lesions. A syndrome with characteristic immunological abnormalities. *Arch. Dermatol.* 1963; **88**: 176–80.
- 2 Chandra A, Saha SK, Ray AK, Karmakar P. Rowell's syndrome: A rare but distinct entity in rheumatology. *BMJ Case Rep.* 2020; **13**: e235173.
- 3 Aguirre-Martinez I, Vélez-Tirado N, García-Romero MT *et al.* Rowell syndrome complicated with macrophage activation syndrome in a child. *Lupus* 2019; **28**: 1716–21.
- 4 Torchia D, Romanelli P, Kerdell FA. Erythema multiforme and Stevens-Johnson syndrome/toxic epidermal necrolysis associated with lupus erythematosus. *J. Am. Acad. Dermatol.* 2012; **67**: 417–21.
- 5 Aringer M, Costenbader K, Daikh D *et al.* 2019 European League Against Rheumatism/American College of Rheumatology classification criteria for systemic lupus erythematosus. *Arthritis Rheumatol.* 2019; **71**: 1400–12.

Supporting Information

Additional Supporting Information may be found in the online version of this article at the publisher's web-site:

Fig. S1. Cutaneous vasculitis over palms and soles, especially over the tips of toes. Desquamative and necrotic lesions over (a) hand and (b) feet.

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Dear Editor,

CHILDREN WITH ASTHMA HOSPITALISED WITH COVID-19:
MULTICENTRE EXPERIENCE

The Centers for Disease Control and Prevention states that 'People with moderate to severe asthma may be at higher risk

of getting very sick from COVID-19', but does not reference this statement.¹ A Korean study of 7272 adult COVID-19 patients, of whom 686 also had asthma, found that asthma was not a significant risk factor for respiratory failure (odds ratio = 0.99, $P = 0.997$) or mortality (odds ratio = 1.06, $P = 0.759$).² There are very few publications in children and it is unclear whether or not children with asthma are at increased risk from COVID-19 infection,^{3–5} nor is it clear whether COVID-19 is a potent trigger of exacerbations of asthma.

We report our experience of 223 children hospitalised with COVID-19 in three main paediatric admitting centres in Oman: Sultan Qaboos University Hospital, Royal Hospital and Sohar Hospital. Five (2%) had acute exacerbation of asthma, requiring salbutamol and corticosteroids. Their median age was 4 years. Three required oxygen therapy and two were observed in high dependency, but none required assisted ventilation. The length of hospital stay was 3 days on average, and all had full recovery (Table 1).

Seasonal coronaviruses tend to cause fewer asthma exacerbations compared to other viruses such as influenza.⁵ Retrospective studies from Slovenia and the USA showed a significant reduction in emergency visits and hospitalisations among children with asthma compared to the pre-COVID era.⁵ Possible explanations include less exposure to outdoor aeroallergens, reduced pollution with the lockdown during the pandemic, better asthma control, fewer viral triggers due to school and pre-school closures, and maybe a higher threshold for emergency presentations.^{3,5} In addition, children with asthma may be protected against COVID-19 due to reduced expression of the angiotensin-converting enzyme 2 receptor required for coronavirus recognition and infection.⁵

School attendance is not discouraged in children with asthma if a safe school return can be ensured by focusing on asthma control, maintaining good hand hygiene, proper social distancing, access to influenza vaccination, improving ventilation in class rooms, wearing masks when appropriate and avoiding irritant cleaning products at school.⁵

Asthma was not found to be a risk factor for severe COVID-19 among children in Oman. It is still unclear whether this is related to school and pre-school closures until recently. With the gradual opening of schools, we should be vigilant to watch for the severity of COVID-19 in this population. Optimising asthma management is the key to preventing severe disease in these children.^{3–5}

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Table 1

No. #	Age, years	Gender	Asthma severity	Regular asthma medications at home	Diagnosis at the time of admission	SARS-CoV2 PCR	WCC, 4.5–14 x 10 ⁹ /L	Lymphocyte count, 1.9–9.8 x 10 ⁹ /L	CRP, mg/L	CXR findings	Management	Oxygen requirement	NIV	PICU admission	Intubation/mechanical ventilation	Length of hospital stay, days	Outcome
1	4	M	Moderate	Salbutamol and fluticasone	Moderate exacerbation of asthma	+	10.7	2.1	24	Right upper lobe collapse	Salbutamol, corticosteroid co-amoxiclav for 7 days	4 L	No	No	No	3	Complete recovery
2	1.8	F	Mild intermittent	Salbutamol and fluticasone	Mild exacerbation of asthma	+	13.7	6	–	Hyperinflated chest with parahilar infiltrates	Salbutamol Corticosteroid	No	No	No	No	2	Complete recovery
3	3	F	Moderate	Salbutamol and fluticasone (not compliant)	Acute gastroenteritis and acute exacerbation of asthma	+	11.7	1	21	Normal	Salbutamol Magnesium sulphate Corticosteroids	No	No	No	No	3	Complete recovery
4	4	M	Mild intermittent	–	Moderate acute exacerbation of asthma	+	10.3	1	5	Hyperinflation with bronchial wall thickening, no consolidation	Salbutamol Magnesium sulphate Corticosteroids	5 L	No	No	No	8	Complete recovery
3	4	M	Mild intermittent	Salbutamol	Severe exacerbation of asthma	+	1.9	0.9	–	Hyperinflated chest with left-sided infiltration	Salbutamol Magnesium sulphate Corticosteroids Ceftriaxone	25 L high-flow nasal cannula with FiO ₂ : 30%	No	Yes	No	5	Complete recovery

+, Positive; –, not done; CRP, C-reactive protein; CXR, chest X-ray; F, female; FiO₂, Fraction of inspired oxygen; M, male; NIV, non-invasive ventilation; PCR, polymerase chain reaction; PICU, paediatric intensive care unit; SARS-CoV-2, severe acute respiratory syndrome coronavirus 2; WCC, white cell count.

References

- 1 Centers for Disease Control and Prevention. *COVID-19. People with Moderate to Severe Asthma*. United States: CDC; 2021. Available from: <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/asthma.html> [accessed 11 February 2021].
- 2 Lee SC, Son KJ, Han CH, Jung JY, Park SC. Impact of comorbid asthma on severity of coronavirus disease (COVID-19). *Sci. Rep.* 2020; **10**: 21805.
- 3 Dosanjh A. COVID 19 and pediatric asthma. *J. Asthma Allergy* 2020; **13**: 647–8.
- 4 Castro-Rodriguez JA, Forno E. Asthma and COVID-19 in children: A systematic review and call for data. *Pediatr. Pulmonol.* 2020; **55**: 2412–8.
- 5 Abrams EM, Sinha I, Fernandes RM, Hawcutt DB. Pediatric asthma and COVID-19: The known, the unknown, and the controversial. *Pediatr. Pulmonol.* 2020; **55**: 3573–8.



The Rainbow Smile by Mia Rodenhuis (11) from Operation Art 2020