Supplementary Materials

Continuity of care in the management of asthma attacks and relevance during a pandemic

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Table S1. Treatment of acute attacks of asthma in primary care and acute care in adults and teenagers\textsuperscript{1,2,3}

| Severity of attack | Primary care management | Acute care facility management |
|--------------------|--------------------------|--------------------------------|
| Life-threatening    | ◦ Urgent transfer to acute care facility  
                      ◦ While waiting for transport, administer salbutamol (5mg) and ipratropium bromide (0.5 mg) via oxygen-driven nebuliser or via pMDI and spacer, commence prednisolone (40-50 mg) or hydrocortisone IV (100 mg), controlled oxygen therapy  
                      ◦ Patient under close continuous observation of HCP in primary care facility until transport arrives  
                      ◦ Written referral to ED/hospital | ◦ Most appropriately managed in acute care (e.g., ED or ICU)  
                      ◦ Commence salbutamol 5 mg every 15–30 mins (or continuous administration 5–10 mg/h) via oxygen-driven nebuliser, add ipratropium bromide 0.5 mg 4–6 hourly, controlled oxygen therapy and oral prednisolone (or IV hydrocortisone 100 mg)  
                      ◦ Measure ABGs  
                      ◦ Discuss with senior clinician and ICU  
                      ◦ Consider adding IV magnesium sulphate (1.2–2g over 20 min\textsuperscript{a})  
                      ◦ Correct any fluid and electrolyte disturbances  
                      ◦ Transfer to ICU for possible intubation and mechanical ventilation |
| Severe              | ◦ Transfer to an acute care facility  
                      ◦ While waiting, administer salbutamol via oxygen-driven nebuliser (5 mg) or via pMDI and spacer, commence prednisolone (40-50 mg) or hydrocortisone IV (100 mg), controlled oxygen therapy (aim SaO\textsubscript{2} 93–95%), maximum 98%  
                      ◦ Patient to remain under close continuous observation of a HCP in the primary care facility until transport arrives  
                      ◦ Written referral to ED/hospital | ◦ Most appropriately managed in ED, ICU or hospital ward  
                      ◦ Commence salbutamol 5 mg every 15–30 mins via oxygen-driven nebuliser plus ipratropium bromide 0.5 mg 4–6 hourly, controlled oxygen therapy, and oral prednisolone (or IV hydrocortisone 100 mg)  
                      ◦ Consider IV magnesium sulphate\textsuperscript{b}  
                      ◦ Consider high-dose ICS within the first hour of presentation\textsuperscript{c}  
                      ◦ Measure ABGs on initial presentation and after 1 hour  
                      ◦ If continuing deterioration, discuss with senior clinician and ICU, treat as life-threatening and prepare for transfer to ICU  
                      ◦ Monitor PEF 15–30 mins after initiating treatment |
| Mild or Moderate | • Administer salbutamol (100 µg/actuation) inhaler via spacer and pMDI, OCS 40–50 mg (adult),  
• Consider controlled flow oxygen if hypoxemic (aim SaO₂ 93–95%, maximum 98%)  
• Monitor SaO₂ and observe patient (minimum 1 hour) within primary care facility  
• Consider transfer to acute care if symptoms fail to improve or deteriorate  
• Symptoms resolved, minimal need for SABA – patient can be sent home with OCS, follow-up appointment, asthma action plan and preventative and relief therapy (consider increasing regular ICS dose if needed) | • On presentation to ED, administer salbutamol (100 µg/actuation) inhaler via pMDI + spacer, or 5 mg via oxygen-driven nebuliser, consider adding ipratropium bromide 0.5 mg nebuliser 4–6 hourly, administer controlled oxygen (aim SaO₂ 93–95%, maximum 98%) if hypoxemic, and commence OCS  
• Measure lung function 1 hour after initial treatment  
• FEV₁/PEF at least 50% predicted or PB⁴, normal physical examination, no distress, consider discharge home with primary care follow-up, asthma action plan and continued OCS  
• FEV₁/PEF <50% or continuing symptom deterioration, treat as severe and assess for hospital admission |

ABG, arterial blood gas; ED, emergency department; FEV₁, forced expiratory volume in 1 second; HCP, healthcare provider; ICS, inhaled corticosteroid; ICU, intensive care unit; IV, intravenous; OCS, oral corticosteroid; PB, personal best; PEF, peak expiratory flow; pMDI, pressurised metered-dose inhaler; SABA, short-acting β₂-agonist; SaO₂, saturated oxygen

⁴Doses stated as per BTS recommendation³; ¹Recommended in NAEPP¹ and GINA²; ²Recommended in GINA only²; ³NAEPP: >70%¹, GINA 60-80%², BTS: >50%³
Figure S1. Example asthma action plan

Image reproduced with permission from Asthma UK. The full asthma action plan resource and most up-to-date version is available at https://www.asthma.org.uk/advice/resources/
References

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