氣喘(Asthma)的診斷及處理流程

Initial assessment
History, physical examination (auscultation, use of accessory muscles, heart rate, respiratory rate), PEF or FEV, oxygen saturation, and other tests as indicated

Mild to moderate exacerbation/PEF >50%
Oxygen to achieve \( O_2 \) saturation \( \geq 90\% \)
Inhaled \( \beta_2 \)-agonist by metered-dose inhaler or nebulizer, up to three treatments in first hour
Oral steroids if no immediate response or if patient recently took oral steroid

Severe exacerbation/PEF <50%
Oxygen to achieve \( O_2 \) saturation \( \geq 90\% \)
Inhaled high-dose \( \beta_2 \)-agonist and anticholinergic by nebulization every 20 minutes or continuously for 1 hour
Oral steroid

Impending or actual respiratory arrest
Intubation and mechanical ventilation with 100% \( O_2 \)
Nebulized \( \beta_2 \)-agonist and anticholinergic
Intravenous steroid

Repeat assessment
Symptoms, physical examination, PEF, \( O_2 \) saturation, other tests as needed

Admit to hospital intensive care

Incomplete response
Physical examination: moderate symptoms
PEF 50–80% predicted/personal best
Inhaled short-acting \( \beta_2 \)-agonist every 60 minutes
Systemic steroid
Continue treatment 1–3 hours, provided there is improvement

Poor response
Physical examination: severe symptoms at rest, accessory muscle use, chest retraction
PEF <50% predicted/personal best
History: high-risk patient
No improvement after initial treatment
Oxygen
Inhaled short-acting \( \beta_2 \)-agonist hourly or continuously
Systemic steroid

Good response
Response sustained 60 minutes after last treatment
No distress
Physical examination: normal
PEF \( \geq 70\% \) predicted/personal best

Discharge home
Intensify therapy
Continue treatment with inhaled \( \beta_2 \)-agonist
Continue course of oral steroid
Patient education
Review medication use
Review/Initiate action plan
Recommend close medical follow-up

Incomplete response
Mild to moderate symptoms
PEF \( \geq 50\% \) but \( <70\% \)

Individualized decision regarding hospitalization

Poor response
Physical examination: symptoms severe, drowsiness, confusion
PEF \( <50\% \)
\( P_{CO_2} \) >42 mm Hg

Admit to hospital ward

Admit to hospital intensive care