

# ACUTE ASTHMA REVIEWS AND GUIDELINE

## Making an Impact

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# Disclosure of Conflict of Interest

Cristina Villa-Roel

I have no conflict of interest.

# Background

- Asthma is a common disease in both children and adults;
- Exacerbations represent important periods of loss of asthma control;
- Acute asthma is often under-treated and promising interventions designed to prevent future exacerbations fail to be implemented.

# Learning Objectives

- Understand interventions that can assist in reducing hospitalizations and the risk of future relapses in acute asthma;
- Identify potential reasons for their limited implementation;
- Identify strategies to reduce the knowledge to action gap in this area.

# Clinical Scenario



- **Symptoms:** Three days of worsening cough, shortness of breath, and wheezing after several days of upper respiratory track symptoms.
- **History:** asthma since childhood and cigarette smoker ( $\frac{1}{3}$  pack/day for 5 years). Has used her salbutamol puffer 12 times over the past 24 hours.
- **Examination:** diffuse, bilateral, musical wheezing, decreased air entry, expiratory prolongation, some supraclavicular in-drawing, and a respiratory rate of 24 breaths/minute. She is afebrile, her  $\text{SaO}_2 = 93\%$  on room air, and her pulse is 104 beats/minute.

# Challenges

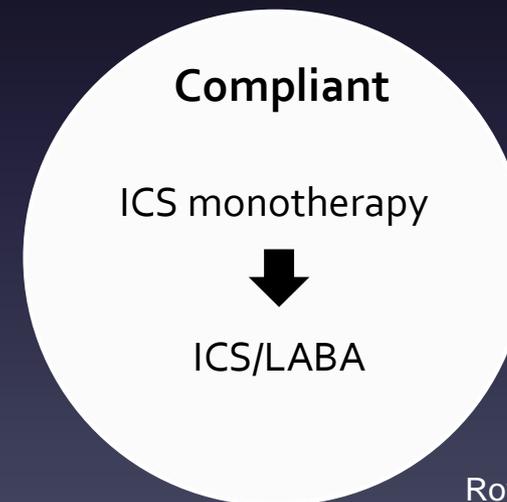
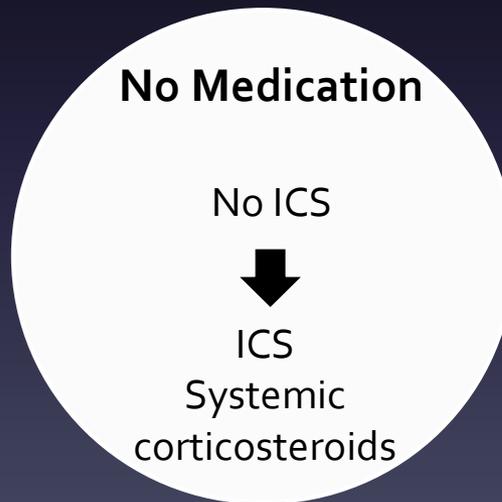
- Diagnosis
- Management
- Further investigations
- Disposition decision and preventive measures

# Evidence-based management (ED)

- Systemic corticosteroids (oral ~ IV);
- SABA through metered-dose inhalers with spacer devices;
- Addition of inhaled short-acting anticholinergics;
- IV magnesium sulfate, inhaled corticosteroids, and IM epinephrine;
- Non-invasive ventilation

# Disposition and preventive measures

- Most ED patients improve with treatment and are discharged.
  - ~18% relapse within two weeks of ED discharge in Canada.
- Short course of systemic corticosteroids.



# Non-pharmacologic Strategies

- Reassessment (follow-up with a primary care provider);
- Asthma education;
- Symptom-based/PEF monitoring;
- Written asthma action plans.

# Case Resolution

- ED: 50 mg of oral prednisone, combination of inhaled bronchodilators via MDI and a spacer over 2 hours;
- Her PEF increased (from 200 L to 350L [78%]);
- Equal bilateral air entry;
- No X rays, no ABGs;
- Discharged on Prednisone (50mg x 5 days) and ICS;
- Advised to follow-up with her PCP within 7 days and to consider smoking cessation strategies.

# Gaps in KT

- There is limited implementation of evidence-based care recommendations.
  - ✓ Lack of standardization in outcome reporting;
  - ✓ Challenges related to keeping guidelines updated.

# Conclusion

- Acute asthma presentations to an ED are an important opportunity to intervene.
- Most patients with acute asthma can be treated symptomatically and discharged from the ED without extensive investigations.
- Attention to evidence-based care recommendations after discharge will improve outcomes for patients with acute asthma.

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