RISK FACTORS FOR ASTHMA EXACERBATION

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Asthma Exacerbations

- Period of greatest risk on the patient
- Cause of anxiety to patients with asthma
- Great stress on health care system
Anticipating the Future!

- Risk Factors
  - Genotype?
  - Phenotype?
  - Environment?
  - Meds?
  - Other factors?

- Pre-exacerbation Alarms
  - ↓PEFR
  - Viral infection
  - ↑Asthma score

- Status Asthmaticus
  - Cough
  - Wheezing
  - Dyspnea
Pre-exacerbation Alarms
425 Severe Exacerbations

Risk factors
Effect of Treatment

- ≥12 years of age
- n=1970
- Severe asthma exacerbations continue to be experienced by all patients groups

O'Byrne PM, The OPTIMA randomized trial. *Am J Respir Crit Care Med* 2001
Effect of Treatment

- Well controlled patients on optimal medications, can still experience severe exacerbations

- Reddel HK et al. Differences between asthma exacerbations and poor asthma control. *Lancet* 1999
- Dusser D et al. Mild asthma: an expert review on epidemiology, clinical characteristics and treatment recommendations. *Allergy* 2007
Level of Control

- Controlled Asthma
  - No Exacerbations

- Uncontrolled Asthma
  - Exacerbations
Level of Control

Risk of Exacerbations

Controlled

Uncontrolled
Severity of Asthma

- Australian state of Victoria
- 1986 to 1989
- N=51, 20 yo or less
- 32% had no previous hospital admission
- 39% had preventable elements
  - inadequate assessment or therapy (68%)
  - poor compliance (53%)
  - delay in seeking help (47%)

Future Exacerbation Predictors

- 563 children
- 6–11 years of age
- Future severe exacerbation predictors:
  - Recent severe exacerbation in the previous 6 months
  - Three to four allergic triggers
  - Very poorly controlled asthma

Haselkorn T et al. Recent asthma exacerbations predict future exacerbations in children with severe or difficult-to-treat asthma. J Allergy Clin Immunol 2009
Conclusion

- Predicting the risk of asthma exacerbations is still an area of active research
- Severe exacerbations may occur in both controlled and uncontrolled asthma
- Recent severe exacerbation in the previous 6 months is a strong predictor of future exacerbations
- Very poorly controlled asthma is a risk factor for asthma exacerbation