LONG-ACTING β_2 AGONISTS (LABAs)

FLAME LECTURE: 19

FORDHAM. 10.29.18

LEARNING OBJECTIVES

- To understand the mechanism of action of β_2 Agonists
- To counsel the patient regarding the benefits, risks, and uses for β_2 Agonists
- Prerequisites:
  - NONE
- See also – for closely related topics
  - FLAMEs on COPD/ Medications for treatment of COPD

APPROVED MEDICATIONS

- Duration of action: 12 hours (used twice daily)
  - Formoterol, Salmeterol, Arformoterol
- For Ultra LABAs – Duration of action: 24 hours
  - Indacaterol, Oladaterol, Vilanterol

INDICATIONS & BENEFITS

- LABAs are used in the maintenance treatment of COPD
- Determining need of therapy based on:
  - If Category B-D with GOLD criteria (based on assessment of FEV_1)
  - If more symptomatic on mMRC scale
  - If at higher risk of exacerbation on CAT assessment
- Can use LABA alone or with combination of long-acting muscarinic agents and/or inhaled corticosteroids (progression of therapy based on combination of categories above)
- Improves FEV_1, lung volumes, dyspnea, exacerbations, health status, and number of hospitalizations
- Has no effect on mortality or rate of decline in lung function

ADVERSE EFFECTS

- >10% are CNS related: headache and pain
- Respiratory: nasal congestion, bronchitis, tracheitis, throat irritation
- Hypertension

CONTRAINDICATIONS

- Hypersensitivity
- LABAs increase the risk of asthma related deaths, especially without concomitant use of controlled asthma medication
- Acute episodes of COPD

REFERENCES

- The FDA and Safe Use of Long Acting Beta Agonist in the Treatment of Asthma. https://www.nejm.org/doi/full/10.1056/NEJMp1002074
- Global Initiative for Chronic Obstructive ung Disease: Pocket Guide to COPD Diagnosis, Management, and Prevention. https://goldcopd.org/wp-content/uploads/2018/02/WMS-GOLD-2018-Feb-Final-to-print-v2.pdf