

Pediatric Asthma & Allergy

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Clinical Scenerio

- 9 month old with cough productive and clear rhinorrhea for 11 days low grade fevers, male vomits after cough and it is more severe at night time, wheezing in the office with subcoastal retractions although happy and content in moms lap- remainder of exam normal, pulse ox 94% and respiratory rate 44 + daycare. What do you do as a provider? What questions do you want answered?

RSV + Bronchiolitis

- ? Albuterol efficacy
- ? Steroid efficacy
- ? Cough suppressants
- Does your management change if the patient has a coexisting otitis media?

Pediatric Asthma

- Not all that wheezes is asthma
- 80-90% of children with asthma develop symptoms by age 4-5
- Predisposition 3 X's more likely with fmh of atopy (asthma allergies or eczema)

Zebra's that wheeze

- Anatomic defects like vascular rings, TEF,
- foreign body aspiration
- Mycoplasma
- Bronchitis- usually viral (see below), however think chlamydia if 3w-3 m old
- Viral infections RSV, paraflu, influenza and adenovirus
- CHF in congenital heart defects
- Premies- BPD
- GERD
- Vocal cord dysfunction
- CF

Recognizing asthma

- "recurrent croup"
- Wheezing
- Coughing regularly especially at night or with exertion
- Older children will report chest pain
- Shortness of breath
- Several minutes into exertional exercise + SOB

Reactive Airway Disease vs Asthma

- RAD essentially prediagnosis of asthma in younger children and infants who show recovery after albuterol
- By definition Asthma is an obstructive process with a 12% or greater improvement post albuterol challenge of Pef 25-75% on pulmonary function Tests (PFT's)

Clinical Scenerio

- 7 year old known asthmatic has increased albuterol use over the last 5 days and is still in yellow zones, mom has her on flovent 44 and states she is much more symptomatic and not sure what to do – triggers include allergy season and she is currently taking zyrtec and nasonex along with singulair 5 mg. On exam she is wheezing. What to do next?

So much to consider

- Is her emergency inhaler expired or empty?
- How is she administering the medication?
- Flovent – do we step up or add on oral steroid like prednisolone

PFT's

- When?
- How?
- Who?
- Serial PFT's more helpful than single determinant
- Obstructive process – decreased FEV1 more than FVC hence low ratio

Bronchodilator medication delivery

- Statistically MDI's with aerochamber & mask are as efficacious a delivery method as nebulizers and are more user friendly
- Technique important here- teaching a must!
- Both meds can show effect within in 2 minutes but most effect noted at 15-30 minutes out

Asthma Care Plan

- Green ($> 80\%$ predicted peak flow)
- Yellow (50-80 % predicted Peak flow) – if in longer than 24 hours while doing albuterol q 4 hours and not recovering seek care at office
- Red zones($< 50\%$ predicted) give albuterol and get to ER – depending on severity may call 911
- Peak flow teaching a Must- low flow until about 8 then adult flow

Asthma management

- Best to obtain PFT's either 6 mo to annually depending on control starting at 5 years old
- TEACH TEACH TEACH families recognition!!
- Flu shot may consider pneumococcal vaccine
- Avoid triggers- cold air at recess
- Assess Peak flows
- Coverage at school? At sports?
- COST!!
- Meds expired??? Some have counters

Cost

- Ventolin – 30 dose MDI \$8 walmart
- Singulair going generic this year
- Cetirizine syrup 3 month supply \$5 Sams
- COUPONS!!!!
- www.pparx.org parntership prescription assistance 1-888-4PPA-Now
- www.needymeds.org
- www.rxassist.org

Asthma management

- Assess for pattern
- Independent approach to each child
- Start with anti- inflammatory ?
Corticosteroids vs cromolyn vs inhaled glucocorticoids- depends on triggers!

Mild Intermittent

- FEV1 or PEF $> 80\%$ PEF variability $< 20\%$, night sx < 2 /mo
- Sx 2 times per week or less
- Asx and normal PEF between exacerbations

Mild persistent



Allergies

- When to test?
- How to test – under 3 years old pedi-rast, beyond 3 sometimes skin testing preferred

References

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