Case-Based Interactive ARS on Difficult to Control Asthma

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Disclosure

• Lecture honorarium: Astra Zeneca, Boehringer Ingelheim

• Advisory Board Member: Astra Zeneca, Boehringer Ingelheim, GSK
Case 1

- A 15-year-old female referred from GP for uncontrolled asthma
- She was diagnosed asthma for 2 years
- She had several emergency visits despite being treated with salmeterol/fluticasone evohaler (25/125) 2 puff bid, theophylline (200) bid and salbutamol 2 puff prn
Physical Examination

• HEENT: swelling of turbinate, mucopurulent nasal discharge
• Chest: rhonchi both lung
Diagnosis

• Difficult asthma
Difficult asthma (severe/refractory asthma)

• Failure to achieve control when the maximal recommended dose of inhaled therapy are prescribed

Which is the least likely cause of difficult asthma?

A. Wrong diagnosis
B. Poor compliance
C. Unidentified aggravating factors
D. Psychosocial factors
E. Severe asthma
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A. Wrong diagnosis
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Difficult asthma

- Wrong diagnosis
- Poor compliance/inhaler technique
- Unidentified aggravating factors
- Psychosocial factors
- Severe asthma

- Unidentified allergen
- Occupational exposure
- Upper airway disease
- Gastro-esophageal reflux
- Systemic disease
- Drugs

PD20 Methacholine > 13 umol
15F – left inferior turbinate hypertrophy with nasal septum deviation to the right
15F – Right frontal sinusitis
15F – Random distribution of centrilobular nodular infiltration at RLL
Sinobronchial syndrome

- NSS nasal irrigation
- Pseudo epredine 1x3
- AMK 1X2
- Erythomycin (250) 1x4
- Avamys 2puff OD.
- Salmeterol/fluticasone (50/250) 1x2

Case 2

- A 65 year old man was diagnosed asthma for one year.
- He was treated with salmeterol/fluticasone acuhaler (50/250) bid, salbutamol 2 puff prn and for 3 months but he still have asthma symptoms.
- He never smoke
- CXR= normal

- PE: HEENT normal, Chest Clear
## Spirometry

<table>
<thead>
<tr>
<th></th>
<th>predicted</th>
<th>PRE-RX</th>
<th>%pred</th>
<th>POST-RX</th>
<th>%pred</th>
<th>%CHG</th>
</tr>
</thead>
<tbody>
<tr>
<td>FVC (L)</td>
<td>4.12</td>
<td>3.25</td>
<td>79</td>
<td>3.50</td>
<td>85</td>
<td>8</td>
</tr>
<tr>
<td>FEV1(L)</td>
<td>3.13</td>
<td>2.15</td>
<td>60</td>
<td>2.60</td>
<td>83</td>
<td>20</td>
</tr>
<tr>
<td>FEV1/FVC</td>
<td>68</td>
<td></td>
<td>74</td>
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</table>
Diagnosis

• Difficult asthma
What should we do next?

A. Change salmeterol/fluticasone 50/250 to salmeterol/fluticasone 50/500 bid
B. Add montelukast
C. Add tiotropium respimat
D. Check inhaler technique
What should we do next?

A. Change salmeterol/fluticasone 50/250 to salmeterol/fluticasone 50/500 bid
B. Add montelukast
C. Add tiotropium respimat
D. Check inhaler technique
Stepwise management - pharmacotherapy

**Not for children <12 years**

**For children 6-11 years, the preferred Step 3 treatment is medium dose ICS**

# For patients prescribed BDP/formoterol or BUD/formoterol maintenance and reliever therapy

Tiotropium by mist inhaler is an add-on treatment for patients ≥12 years with a history of exacerbations

GINA 2017, Box 3-5 (2/8) (upper part)
Provide hands-on inhaler skills training

<table>
<thead>
<tr>
<th>Choose</th>
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<tbody>
<tr>
<td>• Choose an appropriate device before prescribing. Consider medication options, arthritis, patient skills and cost. For ICS by pMDI, prescribe a spacer</td>
</tr>
<tr>
<td>• Avoid multiple different inhaler types if possible</td>
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<tr>
<th>Check</th>
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<tbody>
<tr>
<td>• Check technique at every opportunity – “Can you show me how you use your inhaler at present?”</td>
</tr>
<tr>
<td>• Identify errors with a device-specific checklist</td>
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<table>
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<tr>
<td>• Give a physical demonstration to show how to use the inhaler correctly</td>
</tr>
<tr>
<td>• Check again (up to 2-3 times)</td>
</tr>
<tr>
<td>• Re-check inhaler technique frequently, as errors often recur within 4-6 weeks</td>
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</tbody>
</table>

<table>
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<tr>
<th>Confirm</th>
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<tbody>
<tr>
<td>• Can you demonstrate correct technique for the inhalers you prescribe?</td>
</tr>
<tr>
<td>• Brief inhaler technique training improves asthma control</td>
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</table>
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