Case Discussions – Day #2

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Conflicts of Interest

Nora Barrett: Funding: NIH, DOD

Consulting: Biohaven, Regeneron, Uptodate

Grant review: American Lung Association and NIH

Jonathan Gaffin: Grant funding from NIH, Vertex, and GSK; consultant to Syneos Health

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Conflicts of Interest

Elliot Israel:

- Asthma Education Prevention Program (NAEPP) Coordinating Committee 2017-
- AB Science — Consultant
- Amgen — Consultant
- AstraZeneca — Consultant & Clinical Research Support
- Avillion — Consultant & Clinical Research Support
- Circassia Pharmaceuticals — Clinical Research Support
- Cowen — Consultant
- GlaxoSmithKline — Consultant
- Gossamer Bio — Clinical Research Support
- Merck — Consultant
- Novartis — Consultant
- Pneuma Respiratory — Consultant
- PPS Health — Consultant
- Regeneron Pharmaceuticals — Consultant
- Sanofi — Consultant
- TEVA — Consultant & Clinical Research

SEVERE ASTHMA PROGRAM

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Case #1

An 8-year-old girl presents with severe asthma.

Brief history:

Former full-term infant, first wheezing illness at 11 months, ICU admission at 2 years for asthma, no intubation. She initially presented to the Severe Asthma Program at age 6 years old.

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Case #1

Sx: coughs most days. Mildly limited exertion. Uses rescue medication 3-4 x week d/t wheeze.

Triggers: URI, exercise, cold and hot air, Fall/Spring seasons

Risk: 3-4 courses of prednisone/year

Comorbid conditions: Adenotonsillar hypertrophy (T&A); GERD, responsive to PPI; anxiety

Meds: Budesonide-Formoterol 160mcg, 2 puffs BID, Montelukast 5mg daily, Albuterol PRN; good adherence

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Case #1

Evaluation was notable for negative allergy skin prick tests to a panel of aeroallergens;
Spirometry: FEV1 68-76%, FEV1/FVC 0.6-0.7

Peripheral blood eos: 0.61; FeNO: 19ppb; BAL: 5% Eos, negative cultures. Total IgE: 160; sIgE: negative to aeroallergens

Started mepolizumab.

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Case #1

Next 18 months:

Tolerates injections reasonably well, though recently has been noticing an itchy rash/few hives around the injection site.

Sx: improved exercise tolerance; minimal rescue medication use.

Risk: 0 exacerbations

Lung function: stable FEV1 ~ 105%; FEV1/FVC 0.75-0.8

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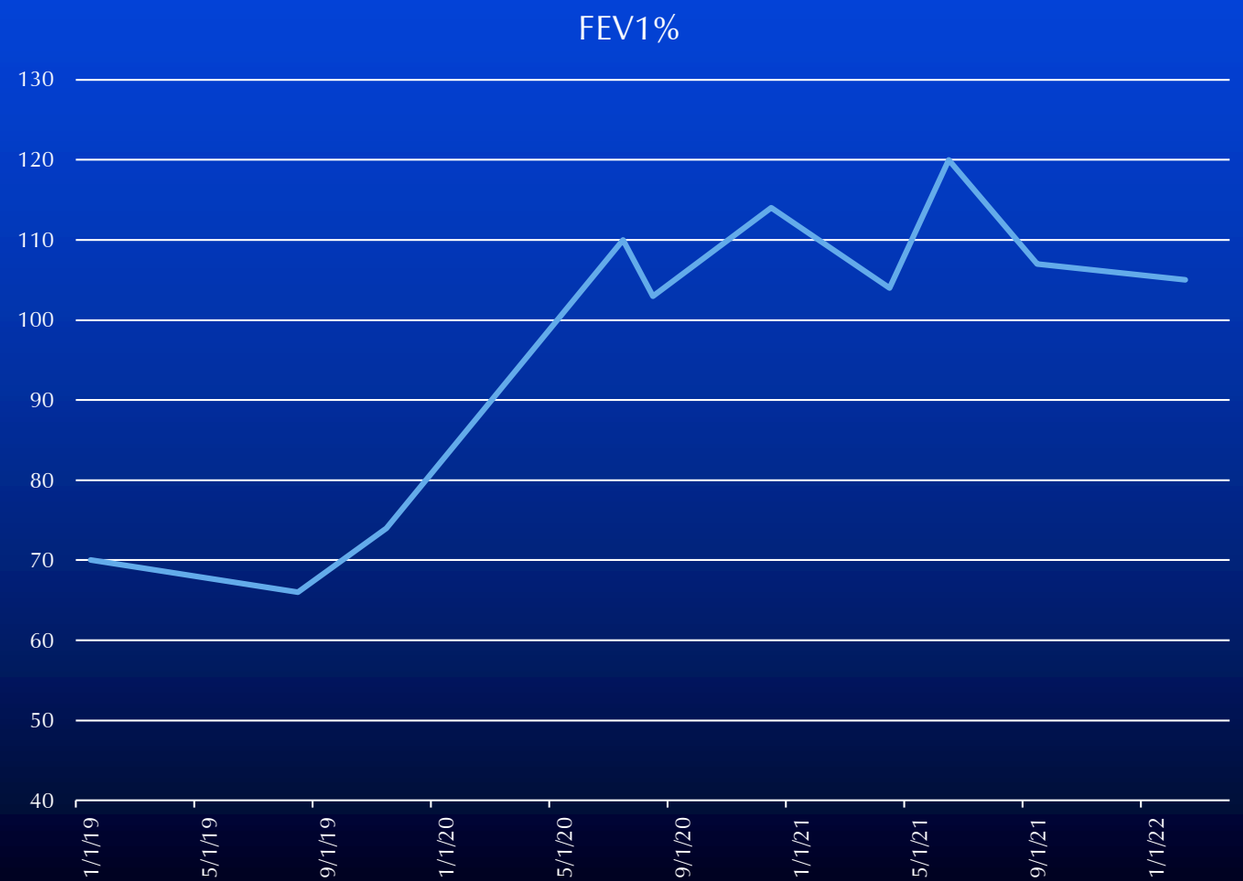
Case #1



SEVERE ASTHMA PROGRAM

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Case #1

Discussion

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Case #2

A 26-year-old personal trainer is referred for help with management of her asthma.

She reports the onset of asthma in early childhood. She recalls having been given nebulizer treatments each day after school. In middle school and high school, she took a steroid inhaler that seemed to work well, and she was able to run track and play tennis on school sports teams. In the last 2-3 years, however, she feels that her asthma has been "out of control."

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Case #2

Despite taking the highest dose of inhaled fluticasone propionate (Flovent) 2 puffs twice daily, she has had frequent flare-ups requiring urgent care visits and short courses of prednisone; in the last year she has had exacerbations almost every other month. She is now on fluticasone/salmeterol combination 500/50 one inhalation twice daily and montelukast 10 mg once daily; she avoids using her albuterol inhaler as much as possible because it makes her jittery.

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Case #2

Her asthma (cough, wheeze, and shortness of breath) interferes at times with her work and disrupts her sleep (which she finds particularly frustrating, now that her 2-year-old son is finally sleeping through the night!).

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Case #2

She has seasonal allergic rhinitis (spring through the fall), for which she takes an antihistamine and nasal steroid spray daily. She has only a remote history of sinus infections, no intolerance of aspirin or other non-steroidal anti-inflammatory drugs, and a normal sense of smell. For her work she rents gym space, which she finds somewhat dusty.

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Case #2

At home she has a dog, which she has had for the last 4 years. She describes it as hypo-allergenic (a bichon frise) and only notes allergic reactions if it licks her skin or scratches her. She is allergic to cats but is very rarely around cats in other people's homes. She is frustrated by an intermittently hoarse voice, which she attributes to one of her inhalers.

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Case #2

On examination, she has mildly edematous nasal mucosa with clear watery nasal discharge; her chest is clear to percussion and auscultation. The remainder of her examination is normal.

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Case #2

Laboratory data include the following:

Spirometry: mild airflow obstruction with and FEV1 = 77%.

Exhaled nitric oxide is suppressed at 18 ppb.

Complete blood count reveals peripheral blood eosinophilia with 600 eosinophils/uL

Total serum immunoglobulin E (IgE) = 325 IU/mL

Allergy skin tests (prick tests) positive to cats, dogs, dust mites, ragweed, birch tree, and alternaria.

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Case #2

Discussion

Case #3

A 24-year-old nurse is referred by her obstetrician for management of her asthma.

As a young child she had exercise-induced symptoms for which she was given a quick-acting bronchodilator to use as needed. At age 13 she had a respiratory tract infection that caused a severe asthmatic attack. She does not recall the details but knows that she was treated in the intensive care unit and almost needed intubation and mechanical ventilation but was not intubated.

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Case #3

At that time, she was hospitalized for 10 days and decided then and there that she wanted to become a nurse. After this hospitalization she was maintained on a combination inhaled steroid/long-acting bronchodilator inhaler and had few symptoms and no major asthma attacks until nursing school. Her asthma worsened then, requiring repeated courses of oral corticosteroids until 4 years ago, when she was begun on monthly injections of mepolizumab.

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Case #3

Since then, she feels that her asthma has been well controlled. Her asthma triggers include exercise in cold weather, exposure to cats or dogs (she has no pets at home but works as a visiting nurse with occasional exposure to animals in patients' homes), and "head colds" that always seem to "settle in my chest." Her last course of oral corticosteroids was last fall in the context of a respiratory infection.

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Case #3

She is now 12 weeks pregnant with her first pregnancy and feels well. She notes some tightness in her chest when walking fast outdoors. She might use her albuterol inhaler to bring relief from this sensation, sometimes remembering to use it before exertion, and she infrequently wakes at night to use it (which is new since her pregnancy). She has continued her budesonide/formoterol inhaler twice daily, sometimes skipping doses if she feels well.

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Case #3

Her other medications are pre-natal vitamins, as-needed sumatriptan for migraine headaches, and propranolol as needed for stress-related anxiety, such as public speaking. She does not monitor her peak flow at home, feeling that she can tell how her asthma is doing based on how she feels.

Case #3

On examination, she appears well. She has mild eczema on her hands. Her chest is clear to percussion and auscultation.

Her peak flow measured in the office is 320 L/min.

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Case #3

Discussion