Allergy/Immunology Pearls
A Cost Effective Approach

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Healthcare 2014 and beyond

Moving forward it is clear that primary care is going to have to be increasingly cost effective.

Today we are going to focus on cost effective, evidence based approach to atopic diseases.
Case 1--Acute Urticaria

42 year old woman, who comes to see you because she has daily hives x 2 weeks.
Acute Urticaria (< 6 weeks)

A. Do blood testing to define allergies.

B. Treat with antihistamines.

C. Treat with steroids.

c. Send her to specialist.
Treatment of acute urticaria (< 6 wks)

Workup: absolutely nothing

Treatment: (high dose H1/H2 blockade)

Fexofenadine 180 mg bid-tid
Ranitidine 150 mg bid-tid

Specialist not required
Testing (both allergy and immune) not indicated.
Acute Urticaria Pearls

* avoid 1st generation antihistamines (Benadryl)
* avoid oral corticosteroids
* avoid serological workups—low yield
* referral to specialist not warranted
* skin biopsy not indicated, almost never helpful.
Case 2: Chronic Urticaria

32 year old woman, who comes to see you because she has had daily/debilitating hives for 6 months. She also has associated lip, hand, and feet swelling. Her rings no longer fit and she is seeing you in bedroom slippers, because she cannot get shoes on her feet. She looks exhausted because she has not slept in 3 weeks.
Chronic urticaria

A. Do blood testing for allergies.

B. Treat with steroids.

C. Treat with antihistamines.

D. Send her to specialist.
Chronic urticaria

- **Diagnosis:** likely autoimmune urticaria

- **Workup:** CBC, CMP, TSH, IgE receptor antibody (allergy testing still not warranted)

- **Treatment:** stop any precipitating meds (ACE, NSAIDs, Opiates) short course of prednisone, high dose H1/H2, immunomodulating medications (cyclosporine, sulfasalazine, cyclosporine)

- **Specialist recommended:** yes
Hymenoptera Sting

29 year old man stung on the hand and the hand became incredibly swollen, infected, and the swelling didn’t go down for 10 days!
A. *Treat patient with oral steroids and antibiotics if necessary.*

B. *Order serum specific IgE levels for all flying insects and give him an Epi pen to carry at all times*

C. *Refer to a specialist*
Hymenoptera Testing

Patient only needs hymenoptera testing if swelling or hives occur is a discontinuous loci from where sting occurred and/or if there was anaphylaxis.

Treatment: reassurance, prednisone and antibiotic if evidence of infection
Hymenoptera #2

35 year old woman, was out gardening when she was stung on her leg. Minutes later her face began to swell, her entire body was covered with hives, she had difficulty breathing, and felt light headed. She took Benadryl and went to the ER where she received more antihistamines and IV Medrol.
Considerations for hymenoptera hypersensitivity

A. Do serum specific IgE levels to determine which flying insect she is allergic to.

B. Wait one month and do serological testing.

C. Give her an Epi pen and tell her to carry it with her at all times when outdoors.

D. Refer her to a specialist for testing and for discussion of immunotherapy.
Hymenoptera Hypersensitivity

• **Answer:** the standard of care for hymenoptera anaphylaxis is allergen desensitization.

• **Must wait one month for testing.**

• **Answer:** give patient an Epi pen and tell them to carry it at all times until specialist appointment.
Allergic Rhinitis

32 year old man, who tells you he suffers with sneezing, nasal congestion, and rhinorrhea, during the spring, summer, and fall portion of the growing season. He wakes up with swollen eyes and is miserable for most of the day.

A. Do blood testing to see what he’s allergic to?

C. Send him to a specialist?

D. Treat clinically?
What is the real merit of testing the patient?

*Testing should not be done to make a diagnosis—clinical history and physical exam should suffice to make diagnosis.*

*The other merit of testing a patient is to identify their specific allergic hypersensitivities in order to begin allergen desensitization.*
So one must surmise their intent

No immunotherapy desired—diagnose clinically and treat. RAST testing is incredibly expensive and doesn’t change treatment or outcomes.

Immunotherapy desired--referral to allergist for skin testing and discussion of desensitization.
Treatment of Allergic Rhinitis (medications listed in order of effectiveness)

- **Nasal steroids are the most effective medication!**
- **2nd Generation antihistamines**
- **Leukotriene receptor antagonists—Singulair**
- **Topical antihistamines—Astelin Astepro Patanase**

- For ocular symptoms, it is usually unnecessary to add eye drop to regimen if patient is already using nasal steroids.
Allergic Rhinitis Pitfalls To Avoid

• Avoid expensive serological testing.
• Avoid systemic steroid shots at all costs!
• Leukotriene receptor antagonists are just a little better than placebo.
• Avoid 1rst generation antihistamines (short half life and very sedating)
Angioedema

51 year old man, with a history of diabetes and hypertension, calls you and tells you he has been having problems with lip, eye, and testicular swelling x 2 weeks.

Diagnosis?
Diagnosis and Treatment

**Diagnosis:** ACE induced angioedema

**Workup:** none indicated

**Treatment:***

*Stop ACE (ARI II blocker usually ok)*

*Antihistamines aren’t usually helpful*
Pruritis on opiates

55 year old man with a history of kidney stones. He is currently passing a small stone and is doing well on Percocet for pain. He calls you 5 days after after being on the medication and says he is “itching like crazy!” He wants you to change him to a new pain medication and requests to see an allergist because every time he takes pain medication he has an “allergic reaction” like this.
**Treatment Options**

A. Tell him that since he is allergic to all opiates, he has to “man up” and deal with the pain.

B. Send him to an allergist for formal allergy testing

C. Start him on high dose antihistamines
Opiates are Direct Mast Cell Releasing Agents—histamine release is not IgE mediated

Keep him on Percocet add fexofenadine bid-tid
Radio contrast media

62 year old man who last year was getting a CT with contrast, when suddenly he developed flushing, burning hands, followed by intense itching and hives. He was told that he is allergic to iodine and should never have contrast or shellfish again. This year he needs another follow up CT and your unsure how to proceed.
Options?

A. Tell him he can never have RCM again!

B. Tell the radiology tech to infuse it at a slower rate next time

C. Send him to allergist for testing

D. Prep him with medication prior to next infusion of RCM
RCM is also a direct mast cell releasing agent—his reaction was not IgE mediated

- He can have shellfish—medical myth
- Prep for contrast in future

- Benadryl 50 mg 12, 7, 1 hour prior to infusion.
- Prednisone 20 mg 12, 7, 1 hour prior to infusion.
- All future studies should be in hospital with ER on alert.
32 year old woman, who complains of chronic abdominal discomfort, diarrhea, bloating, and constipation. She is convinced that food allergies are causing her symptoms, so requests food allergy testing.
"I'm afraid that your irritable bowel syndrome has progressed. You now have furious and vindictive bowel syndrome."
Options?

A. Order IgE RAST testing on multiple different foods

B. Have her keep a food diary and try to determine if there is something she is eating that is causing her abdominal discomfort

C. Send her to a gastroenterologist

D. Treat her for IBS—probiotics and SSRIs
Food allergy in adults

- Fish
- Shellfish
- Nuts/seeds
- Peanuts
- Sesame

Figure 1: The “Big Eight” Allergens: Tree Nuts, Peanuts, Soy, Egg, Milk, Fish, Wheat and Shellfish.
Why not do RAST testing anyway?

- Its expensive and the positive predictive value of RAST testing, in absence of clinical history, is quite poor!
IgG blood testing
ALCAT testing
NAET testing
Shellfish Reaction

25 year old man who has eaten shellfish and fish his whole life, with absolutely no problem at all. Last month, he ate fish/shellfish for dinner (6pm) and went home feeling fine. That night (around 11pm) he began itching and flushing, and felt abdominal discomfort.
Options?

A. Give patient and Epi pen and tell the patient to never eat shrimp again.

B. Tell patient to avoid all shellfish for the rest of his life.

C. Order a RAST on shrimp (a la carte)

C. Send patient to an allergist for testing
Bad shellfish

Fish and shellfish may contain histadine, which can be converted to histamine by bacteria when prepared improperly.

Bad fish/shellfish—not an allergy

Key to diagnosis is timing of reaction (hours post ingestion) versus minutes.

Correct answer C: order serum specific IgE to the species of fish/shellfish that was ingested (a la carte) and if negative reassure the patient.
Drug Allergy

71 year old woman, who is allergic to penicillin, cephalosporins, sulfa, quinolones, and macrolides.

What do you give her for future infections?
Options?

A. Tell patient that if she gets an infection, she will just have to get through it without antibiotics.

B. Tell patient you are skeptical she is really allergic and give her first dose of whatever antibiotic you chose in the office, so you can supervise for potential reaction.

C. Send them to allergist for testing.
“Antibiotic allergy”

NO PERSON IS ALLERGIC TO EVERY CLASS OF ANTIBIOTICS—RARELY ARE PEOPLE EVEN ALLERGIC TO ONE!

This may be a patient you allow the specialist to see—good idea to let patient and specialist know what you want tested.
71 year old man who complains whenever he eats his nose runs profusely, which is very embarrassing for him.
Options?

A. Do blood testing to all major food allergens

B. Have specialist do skin testing to all major food allergens

C. Treat clinically
Gustatory Rhinitis

Ipratropium Bromide nasal spray .06% 2 sprays each nostril

one hour prior to meals.
72 year old man, who notes his nose runs “all the time.”
Options?

• Do blood allergy testing

• Send them to allergist for skin testing

• Tell him to carry more tissue

• Treat clinically
Atrophic Rhinitis/cholinergic hyperactivity/vasomotor rhinitis

Very commonly occurs in our arid climate

Very common in patients > 60 years old

Treatment
Olive Oil or KY Jelly nose tid
Humidifier by bed
Temporary use of Ipratropium Bromide nasal spray
38 year old asthmatic, who complains of nasal obstruction—he is hyponasal, he cannot smell, he cannot taste, and despite being thin, his wife states he snores loudly. He has been on three rounds of antibiotics, but is not improving.

Diagnosis?
Options?

• Have patient take Afrin before bed

• Prescribe nasal steroids

• Send them to specialist (ENT/allergist)

• Get sinus CT
Nasal Polyps

Key to diagnosis – asthma and anosmia

Treatment: prednisone/referral to specialist
Thank you!