The Dreaded PCN Allergy

Becca Peglow, MD
HealthPartners Infectious Disease

Penicillin Allergy

• Adverse reactions to medications are frequently observed.
• Among the drugs associated with IgE-mediated allergic reactions, Penicillins are most commonly implicated.
• Penicillin allergy is estimated to affect 7% to 10% (1 in 10) of community populations and up to 20% of hospitalized patients.
• Many lose allergy over time
Used PCN Allergy Guidelines from Allergy and Immunology Literature

Penicillin Allergy Testing Should Be Performed Routinely in Patients with Self-Reported Penicillin Allergy

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For reference only.

Penicillin Allergy

• When penicillin allergy testing is performed in individuals who report a history of penicillin allergy: the majority don’t exhibit reaction
• The rate of positive skin test results to penicillin in recent studies is only 1% to 8%.
Penicillin Allergy

• The reasons for the low rate of confirmed penicillin allergy include mislabeling of a:
  • side effect (eg, gastrointestinal upset) or
  • a coincidental event (eg, headache or cutaneous eruption due to underlying infection) as an allergic reaction,
  • reduced rates of exposure to parenteral penicillins, and
  • loss of IgE-mediated allergy with avoidance of penicillins over time

PCN Skin Testing

• Patients with negative skin testing to penicillin reagents, followed by an oral challenge that is well tolerated, are able to receive penicillins
  • without increased risk of IgE-mediated allergic reaction.

• The negative predictive value of penicillin allergy testing exceeds 99%

• Studies show that 9/10 people with reported PCN allergy can receive PCN without adverse reaction
Why improve documentation?

• Improving documentation of all antimicrobial allergies leads more appropriate antimicrobial choices

• The National Quality Partners’ Antibiotic Stewardship Action Team recommends penicillin allergy skin testing as a component of a comprehensive antibiotic stewardship program.

Why do we care?

• Unverified penicillin allergy in hospitalized patients associated with:
  • longer hospital stays
  • increased rates of serious drug resistant infections including C Difficile
• Fluoroquinolone over use
• Inadequate treatment of infection
• Unnecessary use of IV Antibiotics for simple to treat infections
  • For example, using carbapenem because documented PCN and Cephalosporin allergy
What Did we do?

• Formed a work group

• Already had an organizational wide AMS committee
  • Asked Allergy and Immunology specialists to join
  • Had Primary Care representation along with PharmD and ID
  • IT/EMR support

• Primary Care driven project
  • Asked Primary Care what they saw and focused on the problem at hand.

Steps

• Develop a Smart Set in our EMR (we used EPIC)
• Educate the clinicians and support staff
  • Ask about allergies, document what reaction was,
  • specific antimicrobial documentation
  • Place food allergies in Problem List and only leave severe allergies (Nuts for example) in the Allergy documentation Tab
• Allergy vs Intolerance?
  • GI upset is not an allergy
  • Document True IGE Mediated reactions
Smart Set

**PENICILLIN ALLERGY SMARTSET**

Resources
- PCN ALLERGY RESOURCES
  - Summary article

Very low risk reaction
- PCN ALLERGY VERY LOW RISK REACTION
  For a very low risk reaction such as GI side effects, family history of a reaction, minor localized rash, okay to consider prescribing penicillin or cephalosporin.
  Please update the Allergy/intolerance list as appropriate.

Questionable or Possible Risk
- PCN ALLERGY QUESTIONABLE OR POSSIBLE RISK
  For a questionable or possible risk such as hives, more diffuse rash particularly involving the trunk, childhood history of penicillin allergy, breathing difficulties, or patient unable to recall reaction, consider referral to allergy for testing. If patient has tolerated a cephalosporin in the past, consider prescribing cephalosporin.

- Allergy And Immunology Consult Adult/Peds
  In order to obtain valid and useful penicillin allergy skin testing results, you will need to discontinue the use of antihistamines prior to your appointment. The Allergy Department will provide you with specific details when your appointment is scheduled. Please consult with the Allergy Department if you have any questions about this.
- Allergy to penicillin (285.0)
For a questionable or possible risk such as hives, more diffuse rash particularly involving the trunk, childhood history of penicillin allergy, breathing difficulties, or patient unable to recall reaction, consider referral to Allergy for testing. If patient has tolerated a cephalosporin in the past, consider prescribing cephalosporins.

Allergy and Immunology Consult Alerts

In order to obtain valid and useful penicillin allergy skin testing results, you will need to discontinue the use of antibiotics prior to your appointment. The Allergy Department will provide you with specific details when your appointment is scheduled. Please consult with the Allergy Department if you have any questions about this.

Provider has recommended an appointment with Port Hospital Allergy. You may call 602.869.3388 to schedule your appointment. If you do not schedule an appointment within the next 1-3 business days, we will call.

Ig as anaphylaxis, Steven-Johnson syndrome, or acute interstitial nephritis, AVOID penicillin and cephalosporins. If patient has tolerated a cephalosporin in the past, consider prescribing cephalosporin.

Diagnosis Details

- **Diagnosis:** Allergy to penicillin
- **Dx code(s):** Z98.0
- **Annotation:** Allergy to penicillin
- **Qualifier:**

Set this as primary diagnosis

- **Accept**
- **Cancel**
Patient Education

The Future Plans

- Disseminate this to clinicians
- Expand to inpatient
- Improve education to community and clinicians
- Desensitization protocol for inpatient use
Other Ideas

• Some institutions are training ID clinicians or pharmacists to do PCN Skin testing on inpatients or in outpatient setting