DE-LABELLING self-reported PENICILLIN ALLERGY within the ED through the use of skin tests and oral drug provocation testing

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What is the issue?

Penicillin allergy
8-12% patients

More money, MRO problems
Hx unreliable: PPV ~14% true allergy
Skin Testing

IgE mediated reaction
Skin Testing

Safe

Systemic reaction rate 0.12% - 0.26%

Allows safe oral challenge

6700 pts with +ve Hx, -ve skin tests

No anaphylaxis on challenge
The issue

Allergy clinics
  Referrals, waiting lists, motivation

ED as a solution?

The use of penicillin skin testing to assess the prevalence of penicillin allergy in an emergency department setting.

150 pts, skin testing, no drug challenge
Methods

Tertiary ED, 2011-2016
18-85 yrs old + ‘penicillin allergy’
Excluding:

   Unstable, pregnancy, severe anaphylaxis
   Beta blocker, corticosteroid, antihistamine, cromolyn

Endpoints:

   Perceived allergy status, adverse events
Method - testing

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<th>Right forearm</th>
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<th>Left forearm</th>
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<tr>
<td>1</td>
<td>SPT Histamine</td>
<td>2</td>
<td></td>
<td>ID PPL 1/10</td>
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<tr>
<td></td>
<td>SPT 0.9% NaCl</td>
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<td>ID MDM 1/10</td>
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<td></td>
<td>SPT PPL Neat</td>
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<td>ID Amox 1/10</td>
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<td>SPT MDM Neat</td>
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<td>15 min observation</td>
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Drug Provocation Testing

Amoxicilllin syrup 2.5mg + 30mins observation
Graded daily dose (9 days) to 250mg

Total ED time:
  30min testing
  90 mins observation
Results

Study Participants = 103

- Positive SPT = 2
- Positive ID test = 14

Negative skin tests = 87

- Left trial / lost to follow up = 3
- True penicillin allergy = 19

DPT

- IgE reaction to DPT = 1
- Non - IgE reaction to DPT = 2

De-labelled from penicillin allergy = 81
Discussion

81% (95% CI 71.9–88.2) of patients reporting penicillin allergy could safely tolerate 250mg amoxicillin

Safe

DPT: low but significant yield

84 patients

- IgE reaction to DPT = 1
- Non-IgE reaction to DPT = 2
Limitations

• Prolonged duration of study
  Risk of selection bias

• Designed to identify IgE mediated hypersensitivity

• Selected patients, severe anaphylaxis excluded
Into practice

2 hour skin tests + 9 day DPT

• Can we abbreviate?
  Reduce labour, improve compliance
  Guide ABX during index presentation

• Possibilities
  Abbreviated skin testing - 1/100 ID dilutions
  Risk stratified DPT
Summary

• Safe

• 81% of patients successfully de-labelled

• Thorough testing is time consuming
Questions