Penicillin De-labelling Elective Surgical Patients

Dr James Arlidge, Anaesthetic ST7
Dr Rachel Deacon, Anaesthetic Consultant
Dr Sarah Jones, Anaesthetic Consultant

The Problems with a Penicillin Allergy Label

It is common
- 5.9 – 10% of UK population [1]
- Less than 10% have true allergy on testing [2,3]

Antibiotic resistance
- Unnecessary use of broad spectrum non-penicillin antibiotics thereby promoting the growing problem of antibiotic resistance[4,5]

Re-admission / Length of stay / ICU
- 0.59 more days over 10 month follow up [6]
- Length of stay 1.16 day longer and increased risk of ICU admission [5]
- Higher risk of re-admission within 12 weeks (risk ratio 1.28; 95% CI 1.10-1.49) [7]
- Higher risk of re-admission within 4 weeks (odds ratio 2.16; 95% CI 1.34-3.46; p=0.001) [8]

Antibiotic associated infections
- Penicillin allergy label significantly increased risk of C. difficile (23.4% 6 35%)[9]
- MRSA (14.1% [6,] 55% [9], increased by 1 in 1000 [1])
- VRE (30.1% [6])

Surgical site infections
- Higher risk of post operative infection (odds ratio 1.51; 95% confidence interval, 1.02–2.22) [10]

Allergy to penicillin alternatives
- NAP 6;
  "Teicoplanin was frequently administered because of a history of penicillin allergy. With the knowledge that the attribution of penicillin allergy is unfounded in more than 90% of cases, effective de-labelling of penicillin allergy would decrease overall risk of anaphylaxis" [11]

- Teicoplanin comprised 12% of antibiotic exposures, however caused 38% of antibiotic-induced anaphylaxis [11,12]

Prescribing Cost
- Penicillin alternatives cost 1.8-2.5 times that of first line penicillin [13]

The detrimental effects of a penicillin allergy label are multifactorial

Penicillin allergy label is no longer considered a benign finding

De-labelling Elective Surgical Patients

Significant proportion of elective surgical patients get peri-operative antibiotics; beta–lactams first line

Pre-operative cohort ideal for de-labelling prior to surgery

Prevalence data for Evelina elective surgical patients
- 6 weeks pre-assessment clinic (May-June 2019)
- 588 patients assessed
- 18 (3%) present with penicillin allergy label
- ~12 / month

Presented data, rational and potential de-labelling pathway to allergy team
- Plan to establish a rapid access de-labelling clinic

Next Steps

Agree on referral criteria from pre-assessment to rapid access de-labelling clinic

Referral pathway logistics

Establish rapid access de-labelling clinic

Review sustainability and impact
- Numbers de-labelled + receiving beta-lactam antibiotics

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