

Objectives

Background:

- Balancing drug allergy with antibiotic stewardship is difficult and an even greater hurdle in the pregnant population given the lack of data.
- Ten percent of patients report a penicillin (PCN) allergy, but over 90% may actually tolerate this antibiotic class
- PCN testing has been underutilized during pregnancy where it may directly impact treatment for Group B streptococcal (GBS) infections or perioperative prophylaxis during Caesarean sections

Study Aims:

- Demonstrate the safety and feasibility of penicillin allergy testing in pregnancy
- Measure the incidence of penicillin allergy
- Measure the association between hypersensitivity testing and CDC recommended GBS and cesarean delivery prophylaxis

Methods

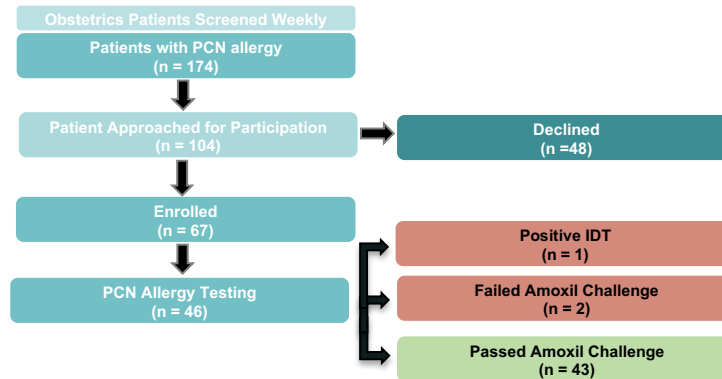
- Prospective cohort study of pregnant women with a self reported penicillin allergy from who met the following inclusion criteria:
 - 18 – 55 years of age
 - Singleton or Multifetal Pregnancy
 - Gestational age between 14w0d and 36w6d
 - Willing to undergo outpatient penicillin allergy evaluation
- Evaluation consisted of skin prick testing and intradermal testing with penicillin G and Prepen, followed by graded oral challenge to Amoxicillin.
- Outcomes included feasibility of allergy testing; defined as number who actually underwent testing through study protocol. Safety was defined as the number of severe allergic reactions. Also recorded were clinical outcomes (GBS status, delivery method, and peripartum antibiotics requirement).

Results

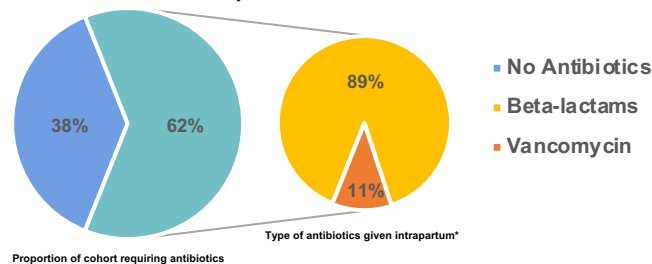
Table 1. Characteristics of Tested Cohort (n=46)

PATIENT DEMOGRAPHICS		PCN ALLERGY HISTORY	
Age, median in years	31	Mean time since reaction (years)	20
Caucasian, proportion	70%	Isolated Cutaneous Symptoms	72%
Parity, median	1	History of prior Anaphylaxis	7%
Commercial Insurance	87%	Unknown or Other	21%
Married	74%	DELIVERY DATA*	
Gestational Age at Testing, median in weeks	27	Cesarean Delivery	34%*
		GBS Colonization	38%*

Figure 1



Maternal Peripartum Antibiotics Use*



*Only 33 of 46 in this cohort has delivered at this time

Results (cont'd)

- Safety. There were no severe reactions (anaphylaxis) during testing of 46 women (Fig. 1).
- Feasibility. Out of 104 women approached, we tested 44% (n=46). Notably, an additional 4 patients were scheduled however could not be tested due to hospital protocols during the COVID19 pandemic.
- Incidence. In our sample, 93% (n=43) of tested women had their PCN allergy resolved.
- Of the 33 women that have delivered, 62% (n=18) required peripartum antibiotics. 89% (n=16) received a penicillin or beta lactam, as recommended by the CDC and only 11% (n=2) received alternative broad spectrum antibiotics.

Conclusions

- In our cohort, only 7% of pregnant women with reported PCN allergy exhibited true hypersensitivity. The majority in our cohort required antibiotics peripartum suggesting a role for PCN allergy evaluation antepartum.
- All women who required peripartum antibiotics and had negative PCN allergy evaluation received 1st line antibiotics and only women who failed their allergy evaluation received broad spectrum antibiotics, as recommended by the CDC. This emphasizes importance of this antibiotic allergy testing in Obstetrics.
- This pilot study has highlighted the ability for PCN allergy testing in pregnancy. Continued work is needed to further define and remove barriers to allergy.
- We aim to conduct a larger study to detect the effect of allergy testing on the adherence to CDC recommended peripartum antibiotic prophylaxis.

References

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