Antibiotic Exposures
Saturday, March 4, 2017
Exhibit Hall B2 (Georgia World Congress Center, Building B)
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Rationale: There is little accurate population-based data on the incidence of oral and parenteral penicillin-class antibiotic-associated anaphylaxis.

Methods: All penicillin-class antibiotic use in Kaiser Permanente Southern California healthplan members seen between 1-1-2009 and 12-31-2015 was identified along with all episodes of anaphylaxis associated with the first exposure to each penicillin-class antibiotic course. Each case was then reviewed in detail to verify the episode was anaphylaxis and was penicillin-associated.

Results: There were 5,201,036 unique healthplan members, mean age 35.6 ± 20.70 year and 52.5% females, who had at least one healthcare visit during the study interval. There were 1,840,830 individuals exposed to 3,837,003 courses of oral penicillins and 172,840 individuals exposed to 237,404 courses of parenteral penicillins. There were a total of 26,195,595 patient years of follow-up. The top oral penicillins used were amoxicillin 2,874,124 (74.89%), amoxicillin-clavulanate 556,781 (14.51%), and penicillin 347,090 (9.05%). The top parenteral penicillins used were piperacillin-tazobactam 103,832 (43.74%), penicillin 67,555 (28.46%), and ampicillin 43,401 (18.28%). There were 18,122 (0.44%) new penicillin “allergy” reports within 30 days of a course. There were 17 cases (1 in 225,706 (0.00044%), 95% CI 1 in 430,218 (0.00023%) to 1 in 152,983 (0.00065%)), 11 females, with anaphylaxis associated with oral penicillin exposures, 12 amoxicillin-, 4 amoxicillin-clavulanate-, and 2 dicloxacillin-associated, and 3 cases (1 in 79,134 (0.00126%), 95% CI 0 (0%) to 1 in 37,125 (0.0027%)), 2 males, with anaphylaxis associated with a parenteral penicillin exposure, 1 ampicillin-sulbactam- and 2 piperacillin-tazobactam-associated (p < 0.001).

Conclusions: Penicillin-class antibiotic-associated anaphylaxis was more common with parenteral compared to oral exposures.

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