RESULTS: Samples of vaginal secretions from 3 women admitted for labor or induction of labor who were receiving IV ampicillin for GBS prophylaxis. The most common indication for admission was preterm labor. The average GA was 35.3 weeks. There were no significant differences in participating patients. Ampicillin concentrations ranged from 7.04-110.61 pg/ul (avg 53.19) at 30 min, 9.43-1765.34 (avg 390.31) at 60 min, 3.63-591.15 (avg 214.11) at 90 min. Ampicilloic acid concentrations ranged from 0.60-38.28 pg/ul (avg 8.70) at 30 min, 5.53-368.39 (avg 73.42) at 60 min, 2.41-101.97 (avg 97.95) at 90 min. Ampicillin diketopiperazine concentrations ranged from 0.56-10.69 pg/ul (avg 5.06) at 30 min, 5.52-368.39 (avg 73.42) at 60 min, 0.23-99.55 (avg 35.34) at 90 min. Ampicillin and both metabolite levels did not correlate with membrane rupture status or cervical dilation. The presence of gross blood or mucus in the sample also did not correlate with an increase in levels.
CONCLUSION: Ampicillin and two urinary metabolites, ampicilloic acid and diketopiperazine are detectable in vaginal transudate within 30 minutes of a single 2 g dose of IV ampicillin, although the concentrations vary widely between patients. No previous studies exist showing the presence of these compounds in the vaginal transudate. The results of this study raise other questions, including the potential effects of ampicillin and its metabolites on the vaginal microbiome and implications for GBS prophylaxis and virulence.
LEARNING OBJECTIVES: Learner can demonstrate knowledge of ampicillin and its metabolites in the vaginal transudate after IV administration of ampicillin.

4 Distribution of ampicillin in vaginal transudates on anterior and posterior fornix sampling

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OBJECTIVES: Ampicillin is one of the most widely used antibiotics in obstetrics, with well-established pharmacokinetics and previous studies elucidating ampicillin levels in maternal serum, amniotic fluid and fetal serum after doses maternal administration. However, no studies exist examining the effects of ampicillin on the vaginal transudate, including the potential differences in ampicillin concentration in different areas in the vagina.
METHODS: Pregnant women from 24-42 weeks gestation receiving ampicillin for GBS prophylaxis were eligible for participation. Samples of vaginal secretions were collected from the anterior and posterior vaginal fornixes using plastic cytology spatulas at 30, 60 and 90 minutes after a single dose of 2 g ampicillin IV. Ampicillin levels were measured using liquid chromatography/mass spectrometry. Clinical information, including rupture status was recorded in addition to information about the appearance and timing sampled for each sample.
RESULTS: 78 samples of vaginal secretions were collected from 10 women admitted for labor or induction of labor who were receiving IV ampicillin for GBS prophylaxis. The most common indication for admission was induction of labor. The average GA was 37.1 weeks. 7 patients had intact membranes, 2 patients were admitted with ruptured membranes and 1 patient ruptured while enrolled. Anterior and posterior vaginal samples were obtained at the level of the cervix. For anterior samples, ampicillin concentrations ranged from 0.007-0.503 ug/ml (mean 0.064) at 30 min, 0.009-0.298 ug/ml (mean 0.134) at 60 min and 0.004-0.218 ug/ml (mean 0.144) at 90 min. For posterior fornix samples, ampicillin concentrations ranged from 0.009-0.329 ug/ml (mean 0.061) at 30 min, 0.016-1.765 ug/ml (mean 0.223) at 60 min and 0.007-1.442 ug/ml (mean 0.209) at 90 min. Levels were noted to be higher in posterior compared to anterior with subsequent timed sampling.
CONCLUSION: Ampicillin is detectable in vaginal transudate within 30 minutes of a single 2 g dose, although in highly variable concentrations between patients. Samples collected from the posterior fornix had higher levels than samples collected from the anterior fornix. This could be explained by gravity causing pooling of ampicillin and metabolites in the posterior fornix over time after intravenous ampicillin administration. Variable distribution of ampicillin in the vagina could have implications for the microbiome as well as prophylaxis for GBS.
LEARNING OBJECTIVES: Learners will be able to identify trends in ampicillin levels in different areas of the vagina.

5 Prognosis and long term outcome of women with idiopathic recurrent vulvovaginal candidiasis caused by Candida albicans

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OBJECTIVES: The prognosis and most effective long-term management of women with recurrent candida vulvovaginitis (RVVC) remains poorly understood, and few studies focus on patients with idiopathic disease. The aim of this study is to evaluate the use of long-term antifungal therapy beyond an initial six month maintenance course of weekly fluconazole, with a unique focus on premenopausal patients with idiopathic RVVC due to C.albicans.
METHODS: A retrospective chart review was performed of women seen in WSU Vaginitis Clinic identified as having confirmed idiopathic RVVC due to Candida albicans during a ten year period (January 2006 through December 2015). Only patients who were without recognized risk factors for secondary VVC and initiated a 6-month course of once-weekly maintenance fluconazole therapy were selected. Data collected included long-term use of fluconazole therapy, treatment efficacy, and development of fluconazole resistance. Follow-up questionnaires were mailed to gain perspective into the patient's subjective experience after fluconazole therapy.
RESULTS: Of 883 patients with diagnosis of RVVC based on clinical records, 191 were found to have confirmed culture positive idiopathic RVVC due to C. albicans. One hundred forty seven (77.0%) completed the initial therapy of fluconazole induction with six months of weekly maintenance dosing, and 107 (72.8%) continued maintenance past the 6 month benchmark. The most common reason for continuation of fluconazole therapy was confirmed post-treatment VVC recurrence seen in (55.1%), with secondary reasons being partial symptom resolution (18, 16.8%), patient preference in absence of clinical relapse (11, 10.3%), and undocumented reason (6, 5.6%) Mean duration of fluconazole maintenance was 35.7 (range 7-288) months. Upon questionnaire follow-up, 92.2% of the 51 respondents reported benefit during the maintenance regimen, however 80.9% described relapse of symptoms after discontinuation of weekly fluconazole therapy. Fluconazole resistance emerged in 6.8% of all 191 women.
CONCLUSION: Fluconazole suppression therapy was highly effective in preventing VVC symptoms, but the disease was rarely curative and VVC relapse occurred frequently after discontinuation of maintenance therapy. Long term fluconazole was remarkably safe, with minimal adverse effects. Drug resistance although uncommon is a previously unrecognized complication. The majority of patients report benefit from fluconazole, even after years of treatment, however cure remain elusive.