368.60), and who currently reported illicit drug use (aOR 3.45; 95% CI 0.71, 15.05) had a higher odds of repeat T. vaginalis infection.
CONCLUSION: Although this study had a small sample size, symptomatic women and those receiving the 2 gram stat dose of metronidazole may be at higher risk for repeat T. vaginalis infection during pregnancy. Future studies are needed to elucidate the optimal T. vaginalis treatment regimen in pregnant women.
LEARNING OBJECTIVES: Identify the predictors of reinfection with Trichomonas vaginalis in pregnant women living in the Southern United States.

11 Patterns and predictors of delayed treatment and tests of reinfection for chlamydia and gonorrhea infections in pregnancy

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OBJECTIVES: To describe the patterns of treatment and tests of reinfection (TOR) for chlamydia and gonorrhea in pregnancy. To investigate factors associated with delayed treatment and TOR.
METHODS: Retrospective cohort study of women who delivered at a single public hospital between July 1, 2016 and June 30, 2018. A positive chlamydia or gonorrhea infection was defined as positive result on nucleic acid amplification testing. Fisher's exact and Kruskal-Wallis H test were used to compare proportions and times to treatment and TOR by STI diagnosis. We used a shared frailty cox proportional hazards model to investigate factors associated with delays in treatment and TOR. An alpha of 0.05 was employed for all tests of significance.
RESULTS: Among 3,349 women, 378 (11.3%) tested positive and 91 (2.7%) were not tested. These 378 positive women contributed 351 unique cases of chlamydia, 51 cases of gonorrhea, and 46 co-infections. Overall, 94.9% of cases received antibiotic treatment, with the proportion treated differing by STI diagnosis (chlamydia = 96.3%, gonorrhea = 88.2%, co-infection = 91.3%, p = 0.02). Time to treatment ranged from zero to 221 days with 56% and 19.5% receiving treatment greater than one and four weeks after testing, respectively. Treatment occurred during hospital admission for delivery in 25 cases (5.9%), including the case whose treatment took 221 days to initiate. Time to treatment did not differ significantly by STI diagnosis (H = 3.60, p = 0.17). A TOR was completed 21 days or more after treatment in 74.8% of cases. TOR was delayed by more than one month in 30.5% of cases. Time to TOR and proportion having a TOR did not differ significantly by STI group (H = 1.62, p = 0.45; chlamydia = 72.5%, gonorrhea = 82.2%, co-infection = 85.7%, p = 0.09). The only demographic or clinical variable that predicted delays in treatment and TOR was increasing gestational age at diagnosis (treatment HR = 1.03, 95% CI = 1.02, 1.04; TOR HR = 1.04, 95% CI = 1.02, 1.05).
CONCLUSION: A substantial proportion of chlamydia and gonorrhea cases experienced delays in treatment and TOR, and a lower proportion of cases involving gonorrhea were treated compared to chlamydia. This may be due in part to the need to report in person for administration of ceftriaxone. Given the impact of treatment on reducing adverse pregnancy outcomes such as preterm birth, point of care testing should be considered in high risk populations in order to expedite treatment.
LEARNING OBJECTIVES: Learners will be able to identify patterns of chlamydia and gonorrhea treatment and tests of reinfection during pregnancy.

12 Mechanisms of 5-nitroimidazole resistance in trichomonas vaginalis: a systematic review of the literature

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OBJECTIVES: Trichomonas vaginalis is the most common non-viral STI affecting an estimated 3.7 million men and women in the U.S. and over 200 million worldwide. Currently approved drugs are from the 5-nitroimidazole class (i.e. metronidazole and tinidazole) however resistance rates can range from 5-10%. The objective of our study was to perform a systematic review of the literature on mechanisms of 5-nitroimidazole resistance in T. vaginalis.
METHODS: A systematic review of original research focusing on mechanisms of 5-nitroimidazole resistance in T. vaginalis over the past 60 years was performed. The PubMed, Science Direct, and EMBASE databases were searched using the keywords: Trichomonas vaginalis, trichomoniasis, 5-nitroimidazole, metronidazole, tinidazole, and drug resistance. Foreign language articles and articles not containing T. vaginalis resistance testing on the two drugs of interest were excluded.
RESULTS: The search yielded 132 results, of which 103 articles were excluded, leaving 29 results. Drug resistance can arise aerobically or anaerobically. It can also potentially arise through infection of T. vaginalis with Mycoplasma hominis or T. vaginalis virus (TVV). Resistance to 5-nitroimidazoles involves different proteins and enzymes involved in drug activation including pyruvate: ferredoxin reductase, ferredoxin, Nitroreductase, hydrogenases, Thioredoxin reductases, and flavin reductases. Evidence suggests that resistance may depend on intracellular oxygen and iron concentrations as well. There also appears to be a distinguishable difference in the prevalence of drug resistance based on the genetic diversity of T. vaginalis and its two population types with higher nitroimidazole resistance seen in type 2 populations as opposed to type 1 populations.
CONCLUSION: Drug resistance to 5-nitroimidazoles is facilitated by the differential expression of enzymes and proteins involved in drug activation, intracellular oxygen and iron concentrations, and genetic mutations in the T. vaginalis genome. Resistance prevalence varies depending on the 5-nitroimidazole used to treat trichomoniasis. Resistance to one 5-nitroimidazole can lead to the development of resistance to others within the drug class. Therefore, new alternative methods of treatment outside of the 5-nitroimidazole class, as well as a more complete understanding of the mechanisms behind 5-nitroimidazole drug resistance are needed.
LEARNING OBJECTIVES: Learners will be able to recognize the underlying mechanisms of 5-nitroimidazole resistance.

13 Predictors of trichomoniasis in pregnancy: a retrospective study in a high-risk population in Atlanta, Georgia

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OBJECTIVES: To identify the prevalence and factors associated with trichomoniasis in pregnancy
METHODS: We conducted a retrospective cohort study of women who delivered between 2016 and 2018 at a single institution who were tested for trichomoniasis during pregnancy. Demographic and clinical characteristics were abstracted from the electronic medical