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Expedited Partner Therapy for Gonorrheal and Chlamydial Infections

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Abstract

Sexually transmitted infections (STI) such as *Neisseria Gonorrhoeae* and *Chlamydia Trachomatis* pose a challenge to the healthcare system worldwide. Treating sexual partners is as crucial to controlling the spread of these infections as treating index patients. However, because of problems associated with stigma, reaching affected populations, and ensuring follow-up, unique solutions are require to ensure partners receive treatment. One solution is Expedited Partner Therapy (EPT). EPT refers to treating patients, and providing necessary medication for both patient and partner. Current recommendations are for oral doses one gram of azithromycin and 400 milligrams of cefixime. This literature review looked at thirteen studies, and aimed to determine whether EPT is still superior to standard partner notification at reducing further infection, and reinfection in adult Gonorrhea and Chlamydia (GC) patients in the US. Research indicates that EPT remains a viable, cost-effective measure at controlling the spread of GC infections. EPT appears to be the best available option despite use of second-line treatments in resistance-prone infections. Additionally, there is a need for future, large-scale, US-based randomized controlled trials to unequivocally show the continued effectiveness of EPT.

Introduction

- The Centers for Disease Control and Prevention (CDC) reported ***1,708,569 lab confirmed Chlamydia cases and 555,608 cases of Gonorrhea in 2017. (CDC, 2017)***
- GC infections remain a significant public health concern
- Current first-line treatment for GC includes injected ceftriaxone and oral azithromycin.
- Because of the stigmas surrounding STIs, many partners or contacts of patients may not present for treatment, or be willing to be seen.

Expedited Partner Therapy

- EPT is a method for treating sexual partners of confirmed GC-infected patients.
- Legal in 43 States and DC
- Consists of medication packets, written prescriptions or offers of telephone prescriptions for sexual contacts.

Statement of the Problem

- Main drawback of EPT is its use of *second-line* oral antibiotic therapy (oral cefixime) in lieu of injectable ceftriaxone.
- EPT is *harm reduction* and is not considered the ideal form of treatment for GC infection.

Research Question

Is Expedited Partner Therapy using oral cefixime and azithromycin for treatment of GC Infections still superior to standard partner notification among adult outpatients in the US in reducing further infection and reinfection rates?

Literature Review

EPT vs. Standard Partner Notification

- Golden, et. al. (2015) performed a large RCT showing significant increase in EPT use during a large, state-wide campaign among Washington state public health clinics ($p<0.001$).
- Golden and Kerani, et. al. (2005) showed decrease in gonorrheal reinfections ($p=0.01$) but not chlamydial reinfections ($p=0.17$)
- Kissinger, et. al. (2005) also performed an RCT showing decreases in GC reinfection in a New Orleans STD clinic ($p<0.001$).

EPT Meta-Analyses

- Ferreira, et. al.'s 2013 Cochrane review of STD partner notification methods showed EPT to be superior to standard partner notification with EPT having a risk ratio of 0.71 (95% CI 0.56-0.89).

Efficacy of Cefixime as Second-Line Treatment

- Town, et. al. (2018) performed a recent analysis of previously used antibiotics. Results showed cefixime remained 96% effective among heterosexuals ($p<0.001$) and 82% effective among homosexuals ($p=0.05$).

Alternatives to Cefixime

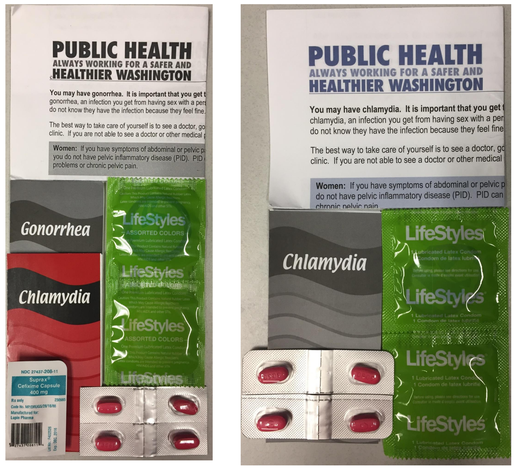
- Kirkcaldy, et. al. (2014) showed effective treatment of Gonorrhea using oral gemifloxacin (99.5% cure rate), however was not a RCT, and gemifloxacin was noted to have nearly 7.5% rate of adverse effects.

Social and Economic Aspects of EPT

- Gift, et al. (2011) looked at cost-effectiveness of EPT and found it to be associated with significant cost savings (using Monte-Carlo statistical methods).
- Clark, et al. (2017) showed 83% of patients successfully informed their partners via EPT vs. 58.3% for standard patient referral. This study discussed the potential for EPT as a method of reaching patients at risk for HIV and syphilis infection as well.

Discussion

- EPT remains a *harm-reduction measure*.
- Current research indicates that when compared with other forms of partner referral, EPT demonstrates superiority in reducing gonorrheal and chlamydial reinfection.
- Studies show good uptake of EPT by patients, and it had promise in potentially reaching more patients.
- A major drawback of EPT in 2019 is the lack of recent large, randomized controlled trials showing *continued* efficacy of second-line oral cefixime.
- Emerging research does show promise with new experimental drugs (zoliflodacin) (Taylor, et al., 2018) and oral gemifloxacin, although the latter is associated with increased adverse effects.
- Although there is a need for further research into this topic given the urgency of a shifting microbiological climate, it appears that EPT remains the best alternative when sexual contacts are unable or unwilling to present to clinics for treatment.



Twoexamples of EPT packets, for Chlamydia (left) and one for Gonorrhea (right).

Source: Tacoma-Pierce County Health Department (fair use).

Applicability to Clinical Practice

- Evidence for EPT use is important to Family Medicine, Emergency Medicine, Urgent Care, Women's and Sexual Health clinicians
- Should data emerge showing substantial reduction in GC susceptibility to cefixime, then EPT should be re-evaluated to ensure it remains a viable option.

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