

Session: P090 Sexually transmitted infections

Category: 2d. Abdominal/gastrointestinal, urinary tract & genital infections

25 April 2017, 12:30 - 13:30
P1878

Sexually transmitted infections in young Israeli adults - epidemiology, clinical characteristics and common treatment practices

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Background: Data regarding sexually-transmitted infections (STI) often origin from STI clinics, screening programs or laboratory-based studies thus biased for specific risk-groups or lack clinical details. This real-life report presents data of most young-adult Israeli population by exploiting the centralized diagnostic and documentation platforms resulting from a mandatory military service at the age of 18 for both genders. Our comprehensive analysis addresses common dilemmas in STI diagnosis and management as antibiotics for equivocal pathogens and the adequacy of empiric treatment.

Material/methods: Records of STI cases of Israeli Defense Forces (IDF) soldiers over 6 months were reviewed. STI were diagnosed using a commercial multiplexed PCR (STI7, Seegene). Infection with *Chlamydia trachomatis* (CT), *Mycoplasma genitalium* (MG), *Neisseria gonorrhoea* (NG) and *Trichomonas vaginalis* (TV) were considered as major STI, whereas *Ureaplasma urealyticum* (UU), *Ureaplasma parvum* (UP) and *Mycoplasma hominis* (MH) infections were considered equivocal infections. Various STI groups were compared to STI-negative or random non-tested controls.

Results: STI positivity rates (n=2982) were as follows: CT- 6.6%, MG- 1.9%, NG- 0.7%, TV- 0.5%, UU- 15.7%, UP- 28.2%, MH- 6.2%. CT/MG coinfection rate was 4.1%, yet CT/NG or CT/TV coinfections were rare (0-1%). All STI except NG were more common in females. Classic STI symptoms in males were tightly linked to major STI and UU, while females were often asymptomatic or had nonspecific complaints. Antibiotic treatment guidelines were followed in 33-87% of major STI, partner treatment was recommended in only 38-53% of them. More than half of the patients with ureaplasmas and/or MH were treated, of whom 40% were also recommended partner treatment. As these infections were significantly more common, most antibiotics were prescribed to patients with equivocal infections.

Conclusions: This STI study offers a comprehensive analysis allowing excellent generalizability due to its unique methodological setup – the mandatory military service at the age of 18 for both genders in Israel. STI diagnoses were performed in a single laboratory using a single validated molecular platform, contributing to the reliability and reproducibility of the diagnostic process. Medical records are computerized and centralized, enabling an exhaustive epidemiological and clinical risk factor evaluation.

Despite clear guidelines for the management of major STI, they were not commonly followed. This should promote an ongoing educational effort and enhanced supervision of primary caregivers, strengthening the need for specialized STI clinics. On the other hand, judicious use of antibiotics in the era of antimicrobial resistance necessitates reevaluating the significance of detecting and/or reporting equivocal pathogens. Likewise, the sparse CT/NG, CT/TV coinfections call for tailoring empiric antibiotic treatment to patients' risk rather than universal empiric treatment recommendations. The high rate of infections/coinfections with MG, an emerging pathogen with potential resistance to common STI protocols, may require a targeted management.