Perspectives

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PENICILLIN DESENSITISATION CAN BE SAFELY CARRIED OUT IN PREGNANCY

Penicillin desensitisation during pregnancy is indicated for conditions with limited treatment options and potentially serious complications, such as syphilis. A systematic review of 18 studies compiled evidence for penicillin skin testing (PST), challenge or desensitisation among 231 pregnant women requiring treatment for syphilis or group B streptococcus. Overall, 84% of those undergoing PST had negative results and were desensitised with no adverse reactions. Among women with a positive PST, half experienced benign reactions to desensitisation and all but two completed the process. One adverse pregnancy outcome was reported, unrelated to desensitisation. True penicillin allergy is uncommon in pregnant women with unverified allergy; PST and desensitisation are safe.

Furness A, Kalicinsky C, Rosenfield L, et al. Penicillin skin testing, challenge, and desensitization in pregnancy: a systematic review. *J Obstet Gynaecol Canada* Published Online First: 28 January 2020. doi:10.1016/j.jogc.2019.11.067

RISK FACTORS FOR REPEATED SYPHILIS EPISODES IN HIV-POSITIVE MEN WHO HAVE SEX WITH MEN

To examine risk factors for incident (first and repeated) syphilis episodes, a prospective cohort study investigated 2153 HIV-positive men who have sex with men (MSM) with initially negative syphilis tests. Between 2004 and 2018, 26% had at least one syphilis episode, 6% had at least two, and almost 2% had three or more. A higher number of previous syphilis episodes marginally increased, rather than decreased, the risk of incident syphilis (adjusted per-episode HR 1.15; 95% CI 1.01 to 1.31). Being on antiretroviral therapy and having occasional partners or condomless sex also increased the risk of incident syphilis. HIV-positive MSM with an initial diagnosis of syphilis are at increased risk of repeated episodes; the effect may be explained by unmeasured sexual risk behaviours. Intensified screening should be considered to guide treatment and limit onward transmission.

Roth JA, Franzeck FC, Balakrishna S, *et al*. Repeated syphilis episodes in HIV-infected men who have sex with men: a multicenter prospective cohort study on risk factors and the potential role of syphilis immunity. *Open Forum Infect Dis* 2020;7:ofaa019. doi:10.1093/ofid/ofaa019

FLUOROQUINOLONE RESISTANCE IN *MYCOPLASMA GENITALIUM*: FROM GENOTYPE TO PHENOTYPE

Antibiotic resistance in *Mycoplasma genitalium* (MG) infections is a major problem worldwide. The genotypic basis for fluoroquinolone resistance remains unclear. A study of 327 macrolide-resistant MG infections in Melbourne presents the largest dataset to date associating the detection of *parC* and *gyrA* mutations with clinical responses to moxifloxacin and sitafloxacin. The *parC* mutation S83I was consistently associated with treatment failure, although sitafloxacin demonstrated higher efficacy than moxifloxacin. Concurrence of mutations in *gyrA* showed an additive effect on quinolone resistance. The findings may promote the development of next-generation resistance assays to optimise antibiotic stewardship and improve antimicrobial responses in MG infections.

Murray GL, Bodiyabadu K, Danielewski J, *et al*. The parC mutation G248T (S83I), and concurrent gyrA mutations, are associated with moxifloxacin and sitafloxacin treatment failure for Mycoplasma genitalium. *J Infect Dis* 2019;221:1017–24. doi:10.1093/infdis/jiz550

VAGINAL MICROBIOTA IN *CHLAMYDIA TRACHOMATIS* AND *MYCOPLASMA GENITALIUM* INFECTION

Vaginal metabolites are influenced by microbiota and may in turn modulate inflammation and STI susceptibility. In a study of vaginal microbiota and metabolomes of *Chlamydia trachomatis* (CT) mono-infected (n=54), CT/*Mycoplasma genitalium* (MG) co-infected (n=14) and uninfected (n=77) race-matched women, *Lactobacillus* species were significantly less prevalent among infected women. Infection was characterised by distinct metabolomic profiles, and there was no association with age, number of recent partners, or condom use. Women with CT or CT/MG had higher levels of biogenic amines, which may increase virulence of pathogens and shield them from innate response.[1] With increasing diagnosis of MG infections in clinical practice, larger studies are needed to explore interactions between host, pathogens, and microbiota in CT and CT/MG co-infection.

Borgogna J-LC, Shardell MD, Yeoman CJ, *et al*. The association of Chlamydia trachomatis and Mycoplasma genitalium infection with the vaginal metabolome. *Sci Rep* 2020;10:3420. doi:10.1038/s41598-020-60179-z

ONGOING HEPATITIS B VIRUS ACQUISITION AMONG INCARCERATED PEOPLE WHO INJECT DRUGS

Hepatitis B virus (HBV) vaccination is offered to all prisoners reporting injection drug use in Australia.[2] A retrospective audit of immunisation records (2005–2014) for 276 HBV-susceptible prisoners who inject drugs found that 61% were immunised, of whom 15% were non-responders (≥3 immunisation doses and remained HBsAb negative). Prospective follow-up was available for 140 HBV-susceptible prisoners: over 407 person-years (PY) of follow-up, 34% were successfully immunised (HBsAb >10 IU/L), 61% remained susceptible through lack of vaccination or vaccine non-response and 5% acquired incident HBV (incidence 1.7/100PY), one of whom had been successfully immunised and subsequently infected. Incident infection was associated with daily/more frequent injection drug use (IDU) in prison, sharing injection equipment, heroin and cocaine injection, and having been stabbed. Successful immunisation against HBV was associated with younger age at incarceration and at initiation of injecting. HBV immunisation programmes must be accelerated in prisoners who report IDU.

Li H, Cameron B, Douglas D, *et al*. Incident hepatitis B virus infection and immunisation uptake in Australian prison inmates. *Vaccine* 2020;38:3255–60. doi:10.1016/j.vaccine.2020.02.076

VIRAL PHYLOGENY REVEALS ONGOING HEPATITIS C VIRUS TRANSMISSION AMONG MSM IN FRANCE

The transmission dynamics of hepatitis C virus (HCV) have been evolving in Europe in the last decades. HCV genotype 4, previously uncommon, now circulates across

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Western Europe. A sizeable outbreak of HCV-4d was documented among HIV-positive men who have sex with men in 2003 and 2007.[3] A new study analysing 530 sequences highlights the persistence and spread of the initial outbreak in France and demonstrates an epidemiological link with the Netherlands. The dense interconnection of HCV genome sequences points to sexual networks rather than global immigration as the driver of HCV-4 spread across Europe. Phylogenetic studies can help refine HCV screening strategies and target behavioural interventions for at-risk populations.

Visseaux B, Hué S, Le Hingrat Q, *et al*. Phylogenetic investigation of HCV-4d epidemic in Paris MSM HIV population reveals a still active outbreak and a strong link to the Netherlands. *Clin Microbiol Infect* Published Online First: February 2020. doi:10.1016/j.cmi.2020.01.034

Handling editor Anna Maria Geretti

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Contributors MD, EC, and MF-H contributed equally to writing the article.

Competing interests None declared.

Provenance and peer review Commissioned; internally peer reviewed.

To cite Daskalopoulou M, Fernández-Huerta M, Chung E. *Sex Transm Infect* 2020;**96**:318–319.

Sex Transm Infect 2020;**96**:318–319. doi:10.1136/sextrans-2019-054273

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REFERENCES

1 Goytia M, Shafer WM. Polyamines can increase resistance of Neisseria gonorrhoeae to mediators of the innate human host defense. *Infect Immun* 2010;78:3187–95.
2 Gidding HF, Mahajan D, Reekie J, *et al*. Hepatitis B immunity in Australia: a comparison of national and prisoner population serosurveys. *Epidemiol Infect* 2015;143:2813–21.
3 Larsen C, Chaix M-L, Le Strat Y, *et al*. Gaining greater insight into HCV emergence in HIV-infected men who have sex with men: the HEPAIG study. *PLoS One* 2011;6:e29322–10.