Research news in clinical context

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WORLDWIDE STI BURDEN AND TRENDS FROM 1990 TO 2019

Investigators modelled STI data extracted from the Global Burden of Disease Study 2019, focusing on syphilis, gonorrhoea, chlamydia, trichomonas and genital herpes. Although most countries showed a decrease in the age-standardised incidence rate of STIs, incident cases increased over time, possibly reflecting growth in sexually active populations and scaling up of STI testing. Globally, there were 48,677 million incident cases of STIs in 1990 vs. 76,985 million in 2019. The highest burden was in sub-Saharan Africa, Latin America and the Caribbean; chlamydia and gonorrhoea also showed high incidence across Asia and in eastern Europe and central Asia, respectively. Alarmingly, adolescents had disproportionately high incidence rates, including an upward trend in syphilis in recent years. STIs remain a global public health challenge.


LONG-ACTING INJECTABLE CABOTEGRAVIR (LA-CAB) IS HIGHLY EFFECTIVE IN PREVENTING HIV INFECTION IN WOMEN: THE HPTN 084 TRIAL

HPTN 084 is a phase III, randomised, placebo-controlled trial evaluating the efficacy and safety of long-acting injectable cabotegravir (LA-CAB) in women in seven African countries. Participants aged 18–45 years at risk of HIV exposure were randomly assigned (1:1) to receive either intramuscular cabotegravir every 8 weeks or daily oral tenofovir/emtricitabine (TDF/FTC). Among 3178 participants and over 3898 person-years, 36 infections were observed on TDF/FTC vs. 4 on LA-CAB, yielding an 88% reduction in the risk of HIV infection with cabotegravir. Of the four infections in the LA-CAB arm, one was reclassified as pre-existing, two did not receive any injections and one had suboptimal cabotegravir concentrations due to delayed visits. Poor or non-adherence was observed in most TDF/FTC incident infections. Women in Africa experience multiple barriers to taking daily TDF/FTC, including judgement, stigma and fear of violence. LA-CAB offers a more discreet, safe and superior alternative. Ongoing efforts are needed to address affordability and implementation.


INTEGRASE STRAND-TRANSFER INHIBITORS (INSTIS) MAY BE ASSOCIATED WITH EXCESS INCIDENCE OF CARDIOVASCULAR EVENTS IN THE FIRST 2 YEARS OF EXPOSURE

The RESPOND observational cohort study analysed the incidence of cardiovascular events (myocardial infarction, stroke or invasive cardiovascular procedures) among 29,340 participants (74% males; median age at baseline 44 years), including 14,000 who were exposed to ≥1 INSTI (62% dolutegravir). Over a median follow-up of 6.2 years, 748 participants (2.5%) had a cardiovascular event. The incidence of cardiovascular events was increased among participants on INSTIs relative to those without INSTI exposure: after accounting for known cardiovascular disease risk factors, INSTI-experienced participants showed an adjusted incidence rate ratio of 1.85 in the first 6 months of INSTI exposure, 1.19 between >6 and 12 months, and 1.46 between >12 and 24 months. After 24 months, the risk decreased to levels similar to those without INSTI exposure. Further studies are needed to confirm the association and to identify its potential mechanisms.


WHAT IS THE OPTIMAL SENSITIVITY OF THE TEST OF CURE FOLLOWING TREATMENT OF HEPATITIS C WITH DIRECT-ACTING ANTIVIRALS (DAAS)?

The efficacy endpoint of direct-acting antiviral (DAA) therapy is a sustained virological response (SVR), defined as undetectable hepatitis C virus (HCV) RNA 12–24 weeks after ending treatment. To inform the development of point-of-care HCV RNA tests, investigators analysed 17,488 patients within observational cohorts or clinical trials. Among 5973 participants with viraemia at SVR12, 41% had advanced fibrosis, 70% had received DAs for 12 weeks and 24% for 24 weeks, and 27%, 66% and 6% had received therapy in the early, mid and recent DAA era, respectively. HCV RNA levels were 2271 IU/mL in 95% and >700 IU/mL in 97% (95% CI 48 to 86). At both SVR12 and SVR18, ~11% of viroemic patients had HCV RNA <1000 IU/mL; this was more likely in women, and with no/minimal fibrosis, genotype 3 and early era DAs. Some point-of-care HCV RNA tests may require a trade-off between convenience and diagnostic sensitivity.


WHEN TO TEST WOMEN FOR MYPLOasma GENITALIUM INFECTION?

Mycoplasma genitalium (MG) has been associated with cervicitis and pelvic inflammatory disease. A cross-sectional study investigated 1318 women attending a sexual health clinic in Melbourne. A questionnaire gathered data on genital symptoms and sexual practices. Asymptomatic women (n=198) self-collected first-void urine for Chlamydia trachomatis (CT) and Neisseria gonorrhoeae (NG) and a vaginal swab for MG. A clinician examined symptomatic women (n=1120) and
collected a cervicovaginal swab for CT, NG and MG. Overall, 6% of women had MG detected, with no difference according to the presence or absence of symptoms. MG was associated with mucopurulent cervicitis in women without bacterial vaginosis (adjusted OR 4.38, 95% CI 1.69 to 11.33; p=0.002), but not with any other clinical signs. Nearly half of MG infections showed macrolide resistance. More data are needed to inform MG testing practices in women with common genitourinary symptoms.


HUMAN PAPILLOMAVIRUS (HPV) INFECTION MAY BE ASSOCIATED WITH SUDDEN SENSORINEURAL HEARING LOSS

Viral infection is one possible cause of sudden sensorineural hearing loss (SSNHL). A Taiwanese nationwide population-based cohort study examined the occurrence of SSNHL among 49,247 individuals with HPV infection who were matched 1:2 by age, sex, index year and comorbidities to a control group of 98,494 individuals without any HPV history. After controlling for demographics, comorbidities and medications, individuals with HPV infection had a 37% greater risk of developing SSNHL compared with controls (adjusted HR (aHR) 1.37; 95% CI 1.07 to 1.74). Individuals with HPV who also had a previous diagnosis of cerebrovascular disease were at greater risk compared with those without cerebrovascular disease (aHR 4.59 vs 1.27, p=0.024). Further research is needed to confirm the observation and to understand the causal mechanisms.


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