

Research news in clinical context

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PUBLISHED IN *STI*: IS A DIAGNOSIS OF RECTAL GONORRHOEA A PREDICTOR OF HIV RISK IN MEN WHO HAVE SEX WITH MEN?

Incidence of rectal gonorrhoea in men who have sex with men (MSM) is regarded as an indicator of increased risk of HIV infection,¹ but the relationship may be modified by effective antiretroviral treatment (ART) and HIV pre-exposure prophylaxis (PrEP) programmes. Between 2011 and 2018 (prior to wide implementation of HIV PrEP), among 541 056 HIV-negative MSM attending sexual health services in England, incidence of rectal gonorrhoea increased from 3.45 to 11.13 per 100 person-years, whereas HIV incidence declined from 1.26 to 0.28 per 100 person-years. Thus, in a setting with highly effective ART programmes,² rectal gonorrhoea is no longer associated with the risk of HIV acquisition at the population level. At the individual level, rectal gonorrhoea remains an important indicator for HIV PrEP.

Donnell D, Zewdie K, Ratna N, *et al.* Association between rectal gonorrhoea and HIV incidence in men who have sex with men: a meta-analysis. *Sex Transm Infect.* 2022;98:492–496.

DETECTION OF *TOXOPLASMA GONDII* IN SEMEN RAISES THE POSSIBILITY OF SEXUAL TRANSMISSION

Toxoplasma gondii is a highly prevalent parasite. While humans are primarily infected through exposure to cat faeces or consumption of undercooked meat containing parasitic cysts, possible male-to-female sexual transmission has been suggested. This study examined sera for the presence of anti-*Toxoplasma* IgG using commercial ELISA and whole semen for the presence of *Toxoplasma* cysts using Giemsa staining. Among 723 participants, 172 were seropositive for anti-*Toxoplasma* IgG (≥ 35 U/mL). In a subset of 50 seropositive volunteers, all

semen samples contained *Toxoplasma* cysts. Infectivity of seminal cysts was not confirmed. Further studies are needed to establish whether transmission of *Toxoplasma gondii* to sexual partners via seminal fluid is possible.

Tong WH, Hlaváčová J, Abdulai-Saiku S, Kaňková Š, Flegr J, Vyas A. Presence of *Toxoplasma gondii* tissue cysts in human semen: toxoplasmosis as a potential sexually transmissible infection. *J Infect.* 2022 Nov 5. Online ahead of print.

TEXT MESSAGES PROMOTING SAFER SEX DO NOT REDUCE THE RISK OF CHLAMYDIA OR GONORRHOEA REINFECTION IN YOUNG PEOPLE

A randomised controlled trial recruited people aged 16–24 years with a diagnosis of chlamydia or gonorrhoea in the past 2 weeks across 92 UK sexual health clinics. Among 6248 participants (60% heterosexual women, 7% MSM, 78% white), 3123 were allocated to receive regular text messages over 12 months promoting safer sex behaviours (safetxt arm) while 3125 to messages querying changes in contact details (control arm). Gonorrhoea and chlamydia reinfection was assessed at 12 months using self-sampling postal kits and questionnaires. The cumulative incidence of reinfection (available for 75% of participants in each group) was marginally higher in the safetxt arm compared with the control arm (22.2% vs 20.3%, OR 1.13; 95% CI 0.98 to 1.31). The intervention may have increased risk of chlamydia or gonorrhoea reinfection in this population, although it increased some self-reported measures of sexual health, such as self-efficacy in condom use and condom use itself. Mobile phone sexually transmitted infection prevention interventions need to be rigorously evaluated to be context and population specific.

Free C, Palmer MJ, McCarthy OL, *et al.* Effectiveness of a behavioural intervention delivered by text messages (safetxt) on sexually transmitted reinfections in people aged 16–24 years: randomised controlled trial. *BMJ.* 2022;378:e070351.

DETECTING HIV INFECTION DURING PREP WITH INJECTABLE LONG-ACTING CABOTEGRAVIR (CAB-LA)

The HPTN 083 trial demonstrated that CAB-LA given every 8 weeks was superior

to daily oral tenofovir–disoproxil fumarate/emtricitabine for HIV prevention among MSM and transgender women who have sex with men.³ During the blinded phase of the trial, 16 HIV infections were identified among 2282 CAB-LA recipients (12 incident and 4 unrecognised at baseline). Despite viraemia, routine HIV antibody or antibody/antigen screening tests showed delayed reactivity in CAB-LA recipients with HIV infection, causing a diagnostic delay and a risk of integrase strand transfer inhibitor (INSTI) resistance. The onset of INSTI resistance was retrospectively assessed in seven CAB-LA recipients with HIV infection using single-genome sequencing. All seven eventually developed INSTI resistance. In four of the seven participants, screening by HIV RNA would have detected the infection prior to the emergence of resistance. Further studies are needed to determine the cost-benefit, feasibility and optimal timing of HIV RNA screening during PrEP with CAB-LA.

Eshleman SE, Fogel JM, Halvas EK, *et al.* HIV RNA screening reduces integrase strand transfer inhibitor resistance risk in persons receiving long-acting cabotegravir for HIV prevention. *J Infect Dis.* 2022 Oct 14. Online ahead of print.

BEPIROVIRSEN FOR CURING CHRONIC HEPATITIS B VIRUS INFECTION

A functional cure of chronic hepatitis B virus (HBV) infection, defined as loss of circulating hepatitis B surface antigen (HBsAg) and HBV DNA suppression in the absence of treatment, is rarely achieved with standard therapy. Bepirovirsen is an antisense oligonucleotide targeting HBV messenger RNAs and is also proposed to trigger Toll-like receptor agonism and immunomodulation.⁴ In the phase 2b B-Clear trial, 457 patients with chronic HBV infection (half receiving standard antiviral therapy) were randomised to weekly subcutaneous bepirovirsen at different doses and durations. Twenty-four weeks after the end of treatment, the highest dose (300 mg) given for the longest duration (24 weeks) achieved a functional cure in 9%–10% of participants. Response rates were higher (up to 25%) with lower baseline levels of HBsAg. Based on these promising findings, bepirovirsen is continuing clinical development both as single agent and in combination with other novel antivirals, a therapeutic vaccine and peg-interferon α .

Yuen MF, Lim SG, Plesniak R, *et al.* Efficacy and safety of bepirovirsen in chronic

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hepatitis B infection. *N Engl J Med.* 2022 Nov 8. Online ahead of print.

LUNG CANCER IS INCREASING AMONG OLDER PEOPLE LIVING WITH HIV

People living with HIV experience higher incidence of lung cancer compared with the general population.⁵ Investigators in the USA linked HIV and cancer registry data (2001–2016) comprising 3426 lung cancer diagnoses over 4310304 person-years of follow-up. Among people living with HIV, cumulative 5-year incidence of lung cancer increased by age and was notably higher than the incidence of non-Hodgkin's lymphoma and Kaposi sarcoma in those aged 60–69 years (1.36% vs 0.45% and 0.12%, respectively) and those aged 70 years and above (1.65% vs 0.62% and 0.17%). The incidence of lung cancer among people with HIV remained 48% higher than in the general population in 2013–2016 (standardised incidence rate: 1.48, 95% CI 1.36 to 1.61). Prevention and early detection of lung cancer is an

important health priority for people living with HIV.

Haas CB, Engels EA, Horner MJ, *et al.* Trends and risk of lung cancer among people living with HIV in the USA: a population-based registry linkage study. *Lancet HIV.* 2022;9:e700–e708.

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REFERENCES

- Mullick C, Murray J. Correlations between human immunodeficiency virus (HIV) infection and rectal gonorrhoea incidence in men who have sex with men: implications for future HIV preexposure prophylaxis trials. *J Infect Dis* 2020;221:214–7.
- Lester J, Martin V, Shah A. Hiv testing, PreP, new HIV diagnoses, and care outcomes for people accessing HIV services: 2022 report. The annual official statistics data release (data to end of December 2021). London UK Health Security Agency; 2021.
- Landovitz RJ, Donnell D, Clement ME, *et al.* Cabotegravir for HIV prevention in cisgender men and transgender women. *N Engl J Med* 2021;385:595–608.
- Yuen M-F, Heo J, Jang J-W, *et al.* Safety, tolerability and antiviral activity of the antisense oligonucleotide bepirovirsen in patients with chronic hepatitis B: a phase 2 randomized controlled trial. *Nat Med* 2021;27:1725–34.
- Chaturvedi AK, Pfeiffer RM, Chang L, *et al.* Elevated risk of lung cancer among people with AIDS. *AIDS* 2007;21:207–13.