Highlights of HIVR4P 2018

Collaboration, combination prevention, and choice were the maxims of HIVR4P in Madrid, Oct 21–25, where over 1400 delegates gathered to discuss biomedical HIV prevention approaches.

Oral PrEP provision

Studies establishing the effectiveness of oral tenofovir disoproxil fumarate and emtricitabine pre-exposure prophylaxis (PrEP) for preventing HIV infection have re-energised hopes for substantially reducing new infections. Oral PrEP is being rolled out in diverse settings around the world, with 68 countries offering it in some form. Programmatic data for this scale-up are decentralised, posing a substantial challenge for tracking progress. Laura Fitch (AVAC, USA) presented data from AVAC's global PrEP tracker, showing that in the first quarter of 2018, 309 525 people were initiated on oral PrEP, with North America and sub-Saharan Africa accounting for the highest numbers of initiations. The tracker captures data from ongoing and planned oral PrEP demonstration projects, implementation initiatives, and national programmes, and probably underestimates the number of people beginning oral PrEP, particularly in Asia (OA04.01).

New drugs for prevention

Long-acting injectable antiretroviral formulations are promising options for overcoming some of the adherence concerns associated with oral PrEP regimens. Raphael J Landovitz (UCLA, USA) reported the final results of HPTN-077 (NCT02178800), which evaluated the safety, tolerability, and pharmacokinetics of long-acting injectable cabotegravir in HIV-negative, adults at low risk of HIV. After the final injections, cabotegravir had a prolonged pharmacokinetic tail, with terminal half lives significantly higher in women than in men and in those with higher body mass indexes. Although exposure to decreasing concentrations of cabrotegravir was well tolerated, determining whether this period of subtherapeutic cabrotegravir levels increases the risk of development of drug resistance will require larger studies in high-risk populations. Two phase 3 efficacy studies—HPTN-083 (NCT02720094) and HPTN-084 (NCT03164564)—are ongoing (OA15.06LB).

Genetic correlates of protection

Rasmi Thomas (Walter Reed Army Institute of Research, USA) reported findings on vaccine-induced gene signature correlates of protection against acquisition of HIV. Transcriptomic data from two pre-clinical non-human primate studies using the mosaic Ad26-based HIV-1 vaccine candidate identified a B-cell signature associated with protection. This signature was significantly enriched among protected vaccinees from the RV144 trial, implicating pathways involved in B-cell development, Toll-like-receptor signalling, and antibody-dependent phagocytosis in vaccine-induced protection from HIV acquisition (OA02.05LB).

Pan-neutralising antibodies

Using plasma from two elite neutralisers, Mohammad Sajadi (University of Maryland, USA) and colleagues isolated and characterised near pan-neutralising antibodies against the HIV-1 envelope protein gp120. The near pan-neutralising antibodies from both plasma donors were derived from a single lineage, with antibodies from one donor potently neutralising 100% of a validated multitier 117 pseudovirus panel. The basis of these broad and potent responses was investigated with X-ray crystallography, which showed that two monoclonal antibodies bound to highly conserved residues in layer 3 of the gp120 inner domain (OA03.02).

Global gag rule

The global gag rule was introduced by the Trump Administration in January 2017 and bans US global health funding from going to foreign organisations that provide abortion services, counselling, or referrals, or that advocate for the liberalisation of a country's abortion laws. Jennifer Sherwood (The Foundation for AIDS Research, USA) presented survey data from the President's Emergency Plan for AIDS Relief implementing partners on the impact of the policy change. Of the 103 partners that were aware the new policy had been added to their grants, 32 had altered service delivery, sub-partners, training materials, research questions, or types of technical assistance. Consequences included reduced sexual and reproductive health training or guidelines, and reduced or stopped provision of at least one clinical or outreach service, providing some of the first evidence of how the global gag rule is compromising care and working against integrated service delivery (P23.07LB).

Multipurpose prevention

Sharon Achilles (University of Pittsburgh, USA), discussed the safety and pharmacokinetics of a 90-day vaginal ring containing dapivirine and levonorgestrel for dual prevention of HIV and pregnancy. A phase 1 randomised trial with 24 HIV-negative women compared the multipurpose ring with single-drug dapivirine and levonorgestrel rings (NCT02855346). After 14 days, the multipurpose ring was well tolerated and achieved local and systemic concentrations supportive of further clinical evaluation (OA12.02LB).

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For the **HIVR4P 2018 programme, ePosters, and webcasts** see http://www.hivr4p.org/

For **AVAC's global PrEP tracker** see https://www.prepwatch.org/country-updates/

For more on the **global gag rule** see https://www.guttmacher.org/tags/global-gag-rule