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INFECTION

Dapivirine ring reduces HIV acquisition

The Ring Study — a randomized, double-blind, placebo-controlled, phase III trial — has demonstrated the efficacy of a dapivirine vaginal ring for the prevention of HIV infection.

As rates of HIV infection are high in women in southern and eastern Africa, effective tools to reduce HIV transmission are required. Vaginal rings that are self-inserted and slowly release antiretrovirals are a good option, as they do not require daily or pericoital application. The dapivirine ring (DVR-004) used in the Ring Study was replaced every 4 weeks, up to a maximum of 24 months. The study included sexually active HIV-negative women from seven research centres across South Africa and Uganda. Participants were randomized in a 2:1 ratio to receive either the DVR-004 ($n = 1{,}307$), which contains 25 mg dapivirine, or a placebo ring ($n = 652$). Women visited the centre every 4 weeks, where they removed the ring and inserted a new one. In the dapivirine group, 77 women underwent HIV-1 seroconversion, corresponding to 4.1 seroconversions per 100 person-years, compared with 56 in the placebo group, corresponding to 6.1 seroconversions per 100 person-years. Overall, incidence of HIV-1 infection was 31% lower in the dapivirine group than in the placebo group (HR 0.69, $P = 0.04$). The age of the patient (older or younger than 21 years) did not seem to affect ring efficacy ($P = 0.43$ for treatment-by-age interaction). Incidence of other STIs and pregnancy rates were similar in both groups. Cumulative incidence of adverse events was also similar across the groups.

Further studies of HIV prevention using the dapivirine ring are ongoing.

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ORIGINAL ARTICLE Nel, A. *et al.* Safety and efficacy of a dapivirine vaginal ring for HIV prevention in women. *N. Engl. J. Med.* **375**, 2133–2143 (2016)