Does TB treatment turn things upside down “down there”?

Life-saving TB therapeutics may cause imbalances in the vaginal ecosystem, ultimately increasing the risk of HIV infection.

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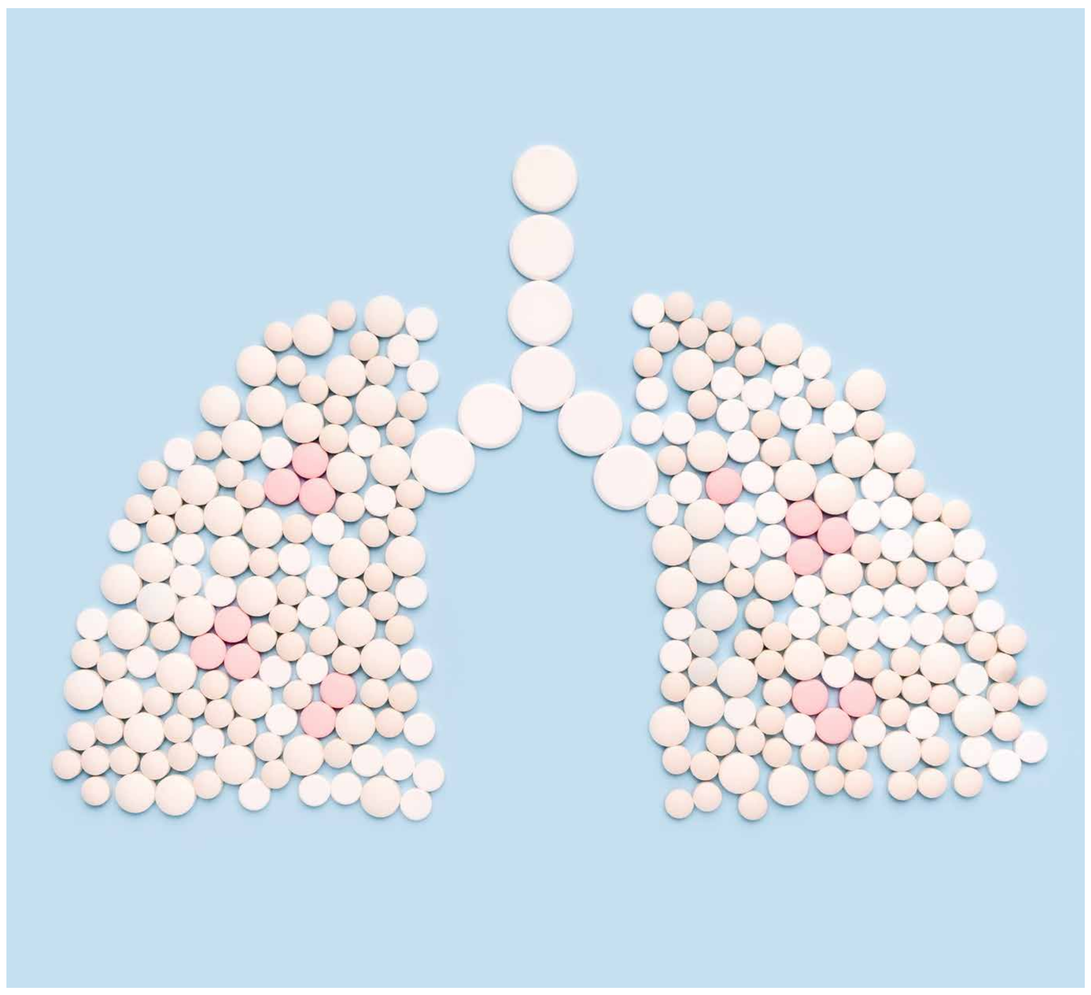
Tuberculosis – one of the top six killers among women – can effectively be treated with long-term antibiotics. However, TB treatment has been shown to dramatically deplete multiple commensal bacteria in the gut. Despite their potential to disrupt the vaginal ecosystem, only a single study has investigated the effect of TB drugs on vaginal bacteria. This may not be surprising, as previous investigations have shown that women’s health research lacks funding.

Claassen-Weitz and the Mucosal Infections Group (MIG) hypothesise that TB treatment may disrupt the vaginal ecosystem. Vaginal microbial dysbiosis may in turn lead to reduced efficacy of antiretroviral-based pre-exposure prophylaxis (PrEP) and an increased risk of HIV infection. Women on TB treatment may need a live biotherapeutic product (LBP)/probiotic to minimise the disruptive effects of life-saving TB drugs on their vaginal ecosystems.

Claassen-Weitz hopes to conduct a longitudinal study, following women prior to, during and after TB treatment, to investigate the effect of TB drugs on vaginal ecosystems. Claassen-Weitz further plans to investigate how vaginal dysbiosis following TB treatment could affect PrEP efficacy and HIV infection risk.

“Understanding the mechanisms behind vaginal dysbiosis following TB treatment could provide the necessary knowledge to aid in the development of LBPs/probiotics, which could counter the potential disruptive effects of TB treatment on vaginal health outcomes, including HIV infection risk. Furthermore, outreach programmes will be established to educate women on the effects of TB treatment on their vaginal health and to, in future, provide them with a therapeutic to be taken alongside TB drugs,” says Claassen-Weitz.



Exploring the link between TB treatment and vaginal dysbiosis could pave the way for developing probiotics.

This study will tell us whether vaginal microbes are disrupted following TB treatment and provide a platform for understanding how TB drugs impact vaginal ecosystems to develop therapeutics. Without this knowledge, women will not know whether life-saving TB drugs are a risk factor for vaginal dysbiosis, which increases their risk of HIV infection. Moreover, no therapeutics will be developed for this concerning issue which is currently not being investigated.

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