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Commentary: Does screening reduce preterm births?

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Preterm birth is one of the most important problems in modern obstetrics. As the connection between ascending infection and preterm birth is undisputed, much research has focused on finding infectious risk factors suitable for screening. In the study by Kiss et al, asymptomatic pregnant women were screened and randomised to treatment during the second trimester for bacterial vaginosis, *Candida*, and trichomoniasis.¹ Bacterial vaginosis has proved to be associated with an increased risk of preterm birth. Unfortunately, in several trials, intervention with antenatal antibiotic treatment—vaginal or systemic—has mostly failed to reduce the rate of preterm births, in spite of successful eradication of bacterial vaginosis.²

Although the incidence of preterm birth was lower in the intervention group in the study by Kiss et al, the treatment of bacterial vaginosis did not significantly reduce the rate of preterm birth. The difference occurred mostly in women with a normal vaginal flora, who received no treatment, and among women colonised with *Candida*, which is surprising since *Candida* has not been considered to be a risk factor for preterm birth. The study of Kiss et al is therefore in agreement with most previous studies concerning the failure of antenatal treatment of bacterial vaginosis to prevent preterm birth. The rate of preterm birth was, however, significantly lower in the intervention group, implying that factors connected to the screening programme, including the role of candidiasis, deserve further studies.

It is interesting to speculate why successful treatment of bacterial vaginosis does not reduce the increased risk of preterm birth. There might be several reasons for this. Bacterial vaginosis is not an infection caused by a single microbe such as *Candida* or *Chlamydia*, but a condition where normal vaginal flora is replaced by a microbiota, which contains a wide variety of bacterial species. It is not known whether differences in the flora of bacterial vaginosis are important, and if so, what the characteristics of a “risky” flora are. Antibiotic treatment is bound to cause selection among the bacterial species and may leave the “dangerous” bacteria alive, although the treatment seems successful. Metronidazole and clindamycin have been used most often in trials. Metronidazole has proved ineffective,³ but systemic clindamycin may reduce the rate of preterm birth.⁴

Different tests can be used to detect bacterial vaginosis. The tests used might lead to differences in study populations, although no difference was observed in the accuracy of the various tests to predict preterm birth.⁵

Another feature typical of bacterial vaginosis is the lack of lactobacilli in the vagina. Normal flora anywhere in the body is usually protective, and it may be the lack or incomplete restoration of this protection that allows pathogens to ascend. Little is known about the local immune function and protection in the vagina and cervix, which surely has an important role in preventing ascending infection. Abnormal vaginal microbiota could even be secondary to defective protection of the mucosal immune system.

We should know more about the specific factors that are responsible for the increased risk of preterm birth so that more accurate screening tests and more effective prophylactic treatment can be developed.

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Endpiece

No hands

I would like to see the day when somebody would be appointed surgeon somewhere who had no hands, for the operative part is the least part of the work.

Harvey Cushing. Letter to Dr Henry Christian,
20 November 1911

Syed Hasan, senior house officer in surgery,
Great Yarmouth