



Cystic Fibrosis Research News

Title:

Cervical mucus quality in females with and without cystic fibrosis

Lay Title:

Cervical mucus quality in females with and without cystic fibrosis

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What was your research question?

How does mucus from the cervix in females with CF using elexacaftor-ivacaftor-tezacaftor (ETI) compare with those not using any highly-effective modulator therapy and with females who do not have CF?

Why is this important?

Females with CF have historically had lower pregnancy rates than the general population and approximately one-third have experienced infertility. It has been hypothesized that cervical mucus, which thins around the time of ovulation in order to help sperm get into the uterus and fertilize the egg, could be thickened in CF and contribute to difficulties becoming pregnant. In addition, pregnancy rates have increased significantly in the last few years since the introduction of ETI, so it has been hypothesized that ETI improves fertility – maybe by improving cervical mucus.

What did you do?

We collected cervical mucus just prior to ovulation, when it should be the highest quality. We scored the mucus according to criteria set by the World Health Organization. We compared these scores across 3 groups: 11 participants with CF on ETI, 2 with CF not on any modulator therapy, and 10 participants who did not have CF.

What did you find?

We discovered that the participants with CF on ETI and the participants without CF had comparable, high-quality cervical mucus, indicating that this is not a barrier to fertility among

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females with CF who are using this medication. We had difficulty recruiting participants with CF who were not using modulator therapy and had only 2 in that group – these people both had poor quality cervical mucus, but we cannot draw significant conclusions from this since the group size was so small.

What does this mean and reasons for caution?

This study provides good evidence that females with CF on ETI have high-quality cervical mucus that is similar to mucus from females in the general population. However, since we did not measure cervical mucus before and after starting ETI, we cannot tell whether ETI causes a change in cervical mucus quality, or whether the mucus is high-quality to begin with. We also do not know how much poor-quality cervical mucus affects fertility, or whether there are other reasons why females with CF have had trouble conceiving.

What's next?

Further research is needed to understand how modulator therapy, cervical mucus quality, and fertility are related. In the meantime, females with CF and their providers should be aware of the possibility of pregnancy and consider contraception if they do not want to be pregnant, or obstetric counseling if they are considering becoming pregnant.

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