

Cystic Fibrosis Research News

Title:

FAILURE TO CONCEIVE IN WOMEN WITH CF IS ASSOCIATED WITH PANCREATIC INSUFFICIENCY AND ADVANCING AGE

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What was your research question?

In men with CF, infertility (reduced ability to naturally have children) is very common due to the effect CFTR mutations can have on male reproductive organs. Women with CF are expected to have normal fertility. However, infertility is frequently found to be a problem in women with CF. Our research questions were: 1. How common is infertility in women with CF? and 2. Are there subgroups of women with increased risk of infertility?

Why is this important?

As people with CF now reach adult age, starting a family is one of the life goals people with CF may try to achieve. Infertility in women is now being successfully treated with assisted reproductive technology- such as hormonal therapy, intrauterine insemination and IVF (in vitro fertilization). If it is recognized that certain women with CF have a higher risk of being infertile, they may be referred to assisted reproduction facilities sooner.

What did you do?

In this study, 11 CF centers from 5 countries participated. Data were collected on 605 adult women with CF. We defined infertility as inability to become pregnant after 12 months of trying, and subfertility as pregnancy subsequently achieved with treatment. We also collected data on CF mutations, pancreatic insufficient status (having to take pancreatic enzyme replacement), diagnosis of diabetes, lung function, nutritional status, exacerbations in the year prior to attempts of pregnancy, and presence or type of bacteria in sputum.

What did you find?

Out of 605 women, 241 attempted pregnancy. Of these, 84 (35%) had subfertility or infertility. On average, females who attempted pregnancy were older than women who did not, but were also healthier than women who did not. Women with subfertility or infertility were significantly older than women with normal fertility (subfertility was 3.9 times higher for women over 31 years), with the average age for subfertile women being 34 compared to 28 years for fertile women). Women with subfertility or infertility were more likely to be pancreatic insufficient (subfertility 1.9 times higher in pancreatic insufficient women); 42% of women who were pancreatic insufficient were subfertile compared to only 29% of women who were pancreatic sufficient.



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What does this mean and reasons for caution?

Overall, women with CF are at increased risk of subfertility: 35% is higher than expected based upon 15% subfertility in the general population. Women who are pancreatic insufficient (and need to take pancreatic enzyme replacement) should be informed that their risk of having difficulty conceiving is higher, and they should be referred early to assisted reproductive technology, especially when at an advancing age. Some caveats of this study is that data were collected from past files, therefore concerted attempts to conceive may have been missed in some cases. Also, other factors which may have been difficult to determine from past files (such as mutations and how well diabetes was controlled) may also be important in determining risk of infertility.

What's next?

In this study we did not assess the reasons for infertility, this may be determined in future studies. It would be interesting to assess whether drugs that affect the function of the CF protein (CFTR modulators such as Kalydeco and Orkambi) improve infertility in women with CF.

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