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UTIs: Which Path to Prevention?

A urinary tract infection (UTI) is something over half of all women will experience; 30% will get recurrent UTIs. I can tell you by observation, it's not at all comfortable for women who get them. They can be very serious—my mother-in-law almost died from one several years ago when it went systemic. The challenge is to find out what women can do to prevent them from occurring. A group of researchers examined a couple of ways and recently published their results.

The Study

Researchers recruited 221 premenopausal women for a year-long clinical trial to examine the recurrence of UTIs. The subjects must have had at least three UTIs in the previous year to be considered for the trial. Two treatment groups were formed: one group took a low-dose antibiotic every day, and the other took 500 mg of cranberry extract twice a day.

The researchers examined the bacterial content of urine and feces over the course of the trial to see if bacteria became resistant to treatment. The women self-reported whether they had developed a UTI over the course of the study.

This study was a noninferiority trial, meaning the researchers cannot harm subjects. Not providing either the antibiotic or the cranberry juice would constitute harm. Very interesting approach; this is the first time I've seen it used and it makes sense.

The Results
The women in the antibiotic group had fewer symptomatic UTIs in the year than those in the cranberry group. The time to first UTI was twice as long in the antibiotic group compared with the cranberry group (eight months vs. four months).

Also interesting was the number of resistant bacteria between the groups. Those taking the antibiotics had 83% resistant bacteria in feces versus only 24% in the cranberry group. The bacteria were resistant to several of the more common antibiotics used to treat UTIs.

Discussion

Chronic low-dose antibiotics do a better job preventing UTIs in women who are prone to them than cranberry extracts do. However, they do it at a cost: the development of antibiotic resistant bacteria that reside in the colon of the women taking the antibiotics. That didn't happen to the same degree with the women taking the cranberry extract.

The question becomes what should women do? They have to balance the inconvenience of the potential of more frequent UTIs with the development of drug-resistant bacteria. Women prone to other types of infections or those often exposed to infectious agents, such as nurses, might choose to take cranberry extract instead of antibiotics because they'd rather suffer through an extra UTI or two than become resistant to common antibiotics; each woman must consider her own situation and discuss it with her physician.

The only problem with the study is the design mandated by the ethics of not doing harm by withholding potential benefit. If the number of UTIs in women who took no preventive action would have been higher than the cranberry, then using that approach would provide some benefit over doing nothing. We just don't know at this time.

The other question is whether women taking antibiotics would do even better if they took cranberry extract as well. Compared to other supplements cranberry extract is relatively inexpensive, so if you want to try a belt-and-suspenders approach, I see no reason not to do so.

If you're a man who gets UTIs, I'd recommend you add cranberry extract to your supplement regimen even without any research specifically directed at men. I don't see a downside.

Another group I'd recommend cranberry extract for is new brides. They sometimes come home from the honeymoon with a UTI due to the change in, um, activity, and adding cranberry extract to their supplements before the wedding might help prevent an uncomfortable situation.

The Bottom Line

I think that the use of low-dose antibiotics is warranted with women who are at risk and have compromised immune systems—they would be more likely to get a UTI. But I also think that there are a couple of things that may help that weren't tested:

- Combining the cranberry extract with the daily use of probiotics and a reduction in refined carbohydrates may enhance the beneficial effects. Good bacteria help control bad bacteria—an oversimplification for certain—but it's more true than not.
- Sugars feed bacteria, thus encouraging their growth, but the good bacteria are more likely to thrive with fruit sugars such as fructooligosaccharides while *E. coli* and other nasty bugs thrive on non-fruit sugars.

Ladies, here's my advice: eat your fruit every day, and add cranberry extract and probiotics to your routine supplements.

One thing is clear: if you get a UTI, get treatment sooner rather than later. You don't need the pain and the potential for something worse to happen. It's not as scary as chest pain, but it can be serious. Don't delay.

What are you prepared to do today?

Dr. Chet

Reference: Arch Intern Med. 2011;171(14):1270-1278.