Medical Xpress

Randomized trial finds ibuprofen not a safe alternative to antibiotics for UTIs

May 15 2018

Ibuprofen, given instead of antibiotics to women with uncomplicated urinary tract infection (cystitis), leads to longer duration of symptoms and more serious adverse events related to the spread of the primary infection, according to a new study in *PLOS Medicine*. Credit: torange.biz

Ibuprofen, given instead of antibiotics to women with uncomplicated urinary tract infection, (cystitis), leads to longer duration of symptoms and more serious adverse events related to the spread of the primary infection, according to a new study in *PLOS Medicine* by Ingvild Vik and

colleagues from the University of Oslo, Norway.

More than half of all women will experience an uncomplicated urinary tract infection during life, and most of these infections resolve without further complications. A short course of antibiotics is a widely accepted standard for the treatment of bacterial urinary tract infection, but antibiotic resistance is a growing, serious public health problem. Some prior studies have suggested that treatment with non-steroidal anti-inflammatory drugs such as ibuprofen may support recovery of a urinary tract infection, raising the possibility that antibiotic use could be reduced.

In the current study, the authors randomized 383 women from 3 Scandinavian countries with uncomplicated urinary tract infections to received either standard treatment of antibiotics for 3 days, or ibuprofen as a symptomatic treatment without an antimicrobial effect. Women's symptoms, bacterial growth from urinary samples, and the occurrence of adverse events including systemic infection or hospitalization, were monitored during the study. The results showed that women assigned to receive ibuprofen without antibiotics took three days longer to get well on average. 70 out of 181 patients receiving ibuprofen (39%) compared to 131 out of 178 receiving antibiotics (74%) recovered from symptoms by day 4 (35% adjusted risk difference, 95% CI). Also, among women in the ibuprofen group, twelve (6.6%) developed a febrile urinary tract infection, with a smaller proportion (3.9%) developing a serious kidney infection which did not occur in the antibiotics group.

Although more than half of the patients initially treated with ibuprofen got well without taking antibiotics suggesting that this approach could potentially reduce overall antimicrobial usage, the study concludes, in confirmation of other recently reported trials, that it is not safe to recommend ibuprofen instead of antibiotics in uncomplicated cystitis, due to the increased risk of developing a serious upper urinary tract

infection.

"Initial treatment with ibuprofen could reduce unnecessary use of antibiotics in this group. However, until we can identify those women in need of antibiotic treatment to prevent complications, we cannot recommend ibuprofen alone to women with uncomplicated UTIs," the authors state in their conclusion.

More information: Vik I, Bollestad M, Grude N, Bærheim A, Damsgaard E, Neumark T, et al. (2018) Ibuprofen versus pivmecillinam for uncomplicated urinary tract infection in women—A double-blind, randomized non-inferiority trial. *PLoS Med* 15(5): e1002569. doi.org/10.1371/journal.pmed.1002569

Provided by Public Library of Science