SCIENCE BEHIND “MAN FLU”

Man flu: less inflammation but more consequences in men than women

Lucas T van Eijk resident anaesthesiologist¹, Peter Pickkers professor of experimental intensive care medicine²

¹Department of Anesthesiology, Pain and Palliative Medicine, Radboud University Medical Center, Geert Grooteplein Zuid 10, 6525 GA, Nijmegen, The Netherlands; ²Department of Intensive Care Medicine, Radboud University Medical Center, Geert Grooteplein Zuid 10, 6525 GA, Nijmegen, The Netherlands

Sue presents extensive evidence from animal and human studies to show that men might suffer more than women in response to the same microbial challenge, that this may be related to sex hormones, and that it might have an evolutionary benefit.¹

We challenged 30 healthy volunteers (15 men, 15 women) with an intravenous dose of 2 ng/kg of purified endotoxin from Escherichia coli to induce experimental endotoxaemia, a model of systemic inflammation typically resulting in flu-like symptoms. We measured their inflammatory response (circulating cytokine levels), perceived symptoms (grading of headache, backache, shivering, nausea and vomiting on a 0-5 Likert scale), and vascular reactivity (changes in forearm blood flow in response to the intra-arterial administration of vasoactive medication).

We found that women mount a more pronounced pro-inflammatory immune response than men, whereas the anti-inflammatory response was not significantly different. By contrast, the vascular reactivity to norepinephrine was attenuated during endotoxaemia in men, whereas it was not significantly influenced in females. So the innate immune response may be less pronounced in men, but the clinical consequences may be more severe. Surprisingly, the severity of perceived symptoms was similar.²

So yes, men complain when feeling sick, just like women do. But in our controlled human in vivo setting, men did not complain more, even though end organ dysfunction was more pronounced. Clearly, we do not moan about it, we just take it like a man.

Competing interests: None declared.

Full response at: http://www.bmj.com/content/359/bmj.j5560/rr-3.

¹ Sue K. The science behind “man flu”. BMJ 2017;359:j5560. doi:10.1136/bmj.j5560

Published by the BMJ Publishing Group Limited. For permission to use (where not already granted under a licence) please go to http://group.bmj.com/group/rights-licensing/permissions

lucas.vaneijk@radboudumc.nl

For personal use only: See rights and reprints http://www.bmj.com/permissions
Subscribe: http://www.bmj.com/subscribe

BMJ: first published as 10.1136/bmj.k439 on 7 February 2018. Downloaded from http://www.bmj.com/ on 25 February 2019 by guest. Protected by copyright.