Anti-depressant link to Clostridium difficile infection

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Certain types of anti-depressants have been linked to an increase in the risk of *Clostridium difficile* infection (CDI) finds a study in BioMed Central's open access journal *BMC Medicine*. Awareness of this link should improve identification and early treatment of CDI.

CDI is one of the most common hospital acquired infections and is responsible for more than 7000 deaths annually in the USA alone. Several types of medications are thought to increase risk of CDI, including anti-depressants, and given that depression is the third most common medical condition worldwide a team from the University of Michigan investigated the exact nature of this risk.

Firstly the team studied *Clostridium difficile* infection in people with and without depression and found that people with major depression had a much higher chance of CDI (a 36% increase) than people without depression. This association held for a variety of depressive disorders and nervous or psychiatric problems. Age and family support also impacted risk of CDI. Older, widowed Americans were 54% more likely to catch *C. difficile* than their married peers. Just living alone increased risk by 25%.

Secondly they looked to see if there was an association between antidepressant medication and hospital acquired CDI. They found that use of most types of antidepressants did not affect CDI risk - out of the twelve drugs tested only mirtazapine and fluoxetine increased risk of CDI, in each case the risk was doubled.

People who have been prescribed these types of anti-depressants need to keep taking them unless otherwise advised by their physician. The researchers stress that it is not yet known whether the increase in CDI is due to microbial changes in the gut during depression or to the medications associated with depression.

Dr. Mary Rogers who led this study explained, "Depression is common worldwide. We have long known that depression is associated with changes in the gastrointestinal system. The interaction between the brain and the gut, called the "brain-gut axis" is fascinating and deserves more study. Our finding of a link between depression and *Clostridium difficile* should help us better identify those at risk of infection and perhaps, encourage exploration of the underlying brain-gut mechanisms involved."

More information: Depression, antidepressant medications, and risk of Clostridium difficile infection Mary A Rogers, M Todd Greene, Vincent B Young, Sanjay Saint, Kenneth M Langa, John Y Kao and David M Aronoff *BMC Medicine* (in press). doi:10.1186/1741-7015-11-121

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