

Anticholinergics study Q&A

Q: In a nutshell, what have you done in this study?

A: We examined the medication records of over 13,000 people using a tool we developed which finds and grades levels of blockade of a neurotransmitter (i.e. a chemical that transmits messages from one nerve cell to another) called acetylcholine. This blockade is known as the 'anticholinergic' effect.

Q: What are the most significant findings?

A: We showed that the greater the extent of the blockade from their medication, the greater the degree of brain dysfunction and greater the risk of death.

Q: Why were these dangers not already known about (despite this being a well-known side effect)?

A: We have known that these drugs can cause confusion but not that the effect was related to level of blockade. We were also not aware that this blockade significantly increased a patient's risk of death. We need large studies such as this one (which was funded by the Medical Research Council) to show up these effects since they only become apparent if large numbers of patients are studied over an extended time period.

Q: Which drugs are the most dangerous?

A: Drugs with a high anticholinergic burden are likely to be the most dangerous, however it is even more important that clinicians consider the overall anticholinergic burden, particularly as many people may be on several such medications.

Q: How would a patient or their family know if they are experiencing anticholinergic effects from their medication?

A: They may have a dry mouth, dizziness, blurred vision, urinary symptoms with difficulty passing water, constipation, and might be muddled and/or sleepy.

Q: All age groups take antidepressants, tranquilisers, antihistamines etc, so why is it only the over-65s that are affected?

A: The aging brain has less reserve and also the brain protection systems may not function properly, allowing drugs which would not normally reach the brain to cross from the bloodstream into the brain. Our collaborators in the United States are examining the effect of these drugs on younger patients who are treated in intensive care to explore the effect on younger but nonetheless vulnerable groups.

Q: Who is most at risk – people who already have dementia, or older people in good mental health?

A: Anyone - our findings were in a group of older people most of whom did not have dementia at the start of the study.

Q: How do you know that it is the anticholinergic side effect that causes the increased risk of death, rather than the underlying disease?

A: We accounted for underlying disease in the analysis; the increased risk of death did appear to be directly related to the anticholinergic effects of the drugs.

Q: How worried should elderly patients taking several of these drugs be? What should they do if they are worried?

A: We would advise patients and their supervising physicians to review and consider alternatives which do not have such effects – for most of these drugs, there are effective alternatives available. If the patient cannot tolerate alternatives, or they are not available, then under supervision of their physician they could continue. We would strongly suggest patients do not suddenly stop their prescribed medication and should seek medical advice to assist with their decision. If the medication is non-prescription, then advice about alternatives can be obtained from a pharmacist. There may also be a role for other clinicians, such as clinical pharmacists and specialist nurses, to review medication to limit overall anticholinergic burden. However, this is an area which requires further research.

Q: What exactly needs to be done next by researchers in this area?

A: There are a number of key areas for further research. First, we need to expand and confirm our findings; this should include applying our methodology to more recent databases. We need funding to examine the effect of dose of medication and also to enhance ways of testing individual drugs to establish their anticholinergic effects in clinical practice. Finally, we need to develop interventions to ensure that people receiving anticholinergics receive regular medication reviews.