Proton pump inhibitors should not be used for longer than necessary, study finds

Proton pump inhibitors (PPIs) are a group of drugs whose main action is a pronounced and long-lasting reduction of stomach acid production. They are prescribed for prevention and treatment of acid-related conditions, such as heartburn and stomach ulcers. Several previous studies have suggested that taking PPIs is associated with serious adverse events, including cardiovascular disease (CVD), acute kidney injury, chronic kidney disease (CKD), dementia, pneumonia, gastric cancer, Clostridium difficile infections and osteoporotic fractures. PPIs are often taken without proper medical indications and for much longer than needed so it is important to know how safe these drugs are.

In this longitudinal study, researchers compared death rates among those taking PPIs, such as omeprazole, with those taking H2 blockers, such as cimetidine, which reduce acid by blocking histamine receptors. They identified new users of acid suppression drugs and followed them for ten years to examine associations between PPI use and cause of death. The researchers found that using PPIs is associated with increased mortality from CVD and CKD. This adds to the body of evidence showing that PPI use carries risk. The researchers are clear that, for some people, there are medical benefits to using prescribed PPIs, but they should only be used where the benefits outweigh the risks and should not be used for longer than necessary.

Care home nurses’ role in identifying frailty in older people

Frailty is a condition in which an individual experiences losses in one or more domains of human functioning – physical, psychological or social. It affects up to 50% of people aged over 85 years. A combination of age, genetic and environmental factors contribute to a decline in multiple body systems leading to vulnerability to sudden health status changes, often triggered by minor stress or illness. Identification of frailty is important because it may be reversible by identifying contributing factors, such as levels of neurotransmitters and calcium, regulate the blood–brain barrier and provide nutritional support to the brain.

However, in Alzheimer's disease their action changes and they start to be more far-reaching, causing inflammation and degeneration of neurones. This also happens in other neurological diseases, including multiple sclerosis and Parkinson's disease.

The knowledge that glial cells can cause brain damage suggests that they should become more central in future research.


Could glial cells in the brain hold the key to curing Alzheimer’s?

Alzheimer’s disease is known to be associated with extensive damage to brain cells (neurones) with shrinkage of the brain, development of plaques of protein between the cells and tangles of fibres inside the cells.

Researchers looking for ways to remove protein plaques has been unsuccessful in finding a cure. Medication can help with symptoms, such as memory loss, but there is no way to reverse or delay the underlying damage in this devastating disease.

Recent advances in genetic studies have shown that multiple genes are involved with the development of late-onset Alzheimer’s disease. Many of these genes do not influence the nerve cells themselves, but programme glial cells, which support and protect nerve cells.

Glial cells make up the white matter of the brain, which has been regarded as having limited importance. Astroglia are specialised glial cells that maintain astrocytes in the brain, development of plaques of protein between the cells and tangles of fibres inside the cells.