POEM*

Gastric acid suppression is associated with increased risk of pneumonia

**Question** Does use of acid suppressing drugs increase the risk of community-acquired pneumonia?

**Synopsis** Acid suppressing drugs, including H2 receptor antagonists (H2RAs) and proton pump inhibitors (PPIs), may increase the risk of bacterial colonisation of the gastrointestinal tract by increasing gastric pH. There is some evidence that acid suppression increases the risk of nosocomial infections, but few studies have been done in the outpatient setting. For this case-control trial, the authors gathered data from a large electronic database of the patient records of about 150 general practitioners in the Netherlands. This database contains the complete medical records of approximately 500 000 patients and has been proved valid for pharmacoepidemiologic research. Patients with community-acquired pneumonia were matched with 10 randomly selected control patients by sex, year of birth, and index date of enrolment to the database. Exposure to H2RAs and PPIs was classified by duration and amount of use of individual drugs. The incidence rates of pneumonia in non-acid suppressing drug users and acid suppressing drug users were 0.6/100 person years in patients who did not use acid suppressing drugs and 2.45/100 person years in those who did. Patients currently using PPIs were significantly more likely to develop pneumonia than those who stopped (number needed to treat to harm (NNTH) per year = 449; 95% confidence interval 247 to 1111). Similarly, current users of H2RAs were also significantly more likely to develop pneumonia (NNTH per year = 635; 270 to 5714). For current PPI users, the risk of pneumonia increased proportionally with increasing dosage.

**Bottom line** Current use of drugs that suppress gastric acid, including H2 receptor antagonists and proton pump inhibitors, is associated with a slightly increased risk of community-acquired pneumonia. Higher doses of PPIs are associated with increasing risk. The risk is very low, and patients currently taking these drugs can be equally well controlled with a reduced dose or by stopping treatment altogether.

**Level of evidence** 3b (see www.infopoems.com/levels.html). Individual case-control study.


* Patient-Oriented Evidence that Matters. See editorial (BMJ 2002;325:983)

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**Editor’s choice**

**Explaining suicide**

Death comes quickly this week, which is why I urge you to grow your brains, guard your privileges, and age a bit. Don’t descend into bitterness and self pity, as I was advised recently; you will gain nothing. Find something to console you or make you laugh, like the story about the Pentagon’s cunning plan to build a “gay bomb,” containing an aphrodisiac chemical that would make enemy soldiers sexually irresistible to each other, delivering a non-lethal blow to morale.

Also, there’s probably someone with a worse deal than you. Take George W Bush, for example—his second term officially begins this week, and he faces a challenge to leave the world in a better state than he found it, say Martin McKee and Susan Foster (p 155). Domestic and international health policies are likely to be controversial, although there are some good ideas among Bush’s reforms.

This issue, though, explores the harbingers of suicide. Our journey of sorrow across Europe begins in Sweden, where Rasmussen and colleagues explore the controversial relation between intelligence and suicide (p 167). Previous studies produced conflicting results. Israeli conscripts with higher intelligence ratings were more likely to commit suicide, although the opposite was reported in Australian conscripts. In Sweden, we find that low intelligence at age 18 predicts later suicide.

One explanation is that poor performance on intelligence tests is associated with depression and schizophrenia, but Rasmussen’s team finds this does not explain their results. A second explanation is that people with lower intelligence scores are less able to identify solutions to problems in times of crisis.

Moving westwards, researchers from the University of St Andrews examine the relationship between suicide rates and deprivation over the past two decades in Scotland (p 173). They find a growing polarization of suicide among young people in deprived areas. The suicide gap between the most and least deprived areas has widened; the number of suicides among young adults has increased, but it has declined among older adults. People in isolated or rural communities are already defined as a priority risk group in Scotland. Boyle and others argue that deprived areas should receive the same priority.

A leap towards Russia finds us in Estonia, where Swedish and Estonian investigators have carried out an intriguing analysis of suicide rates among Russians living in Estonia before and after independence in 1991 (p 176). During the Soviet era the Russian minority in Estonia reached 30% of the population and had a lower suicide rate than their hosts. The trappings of privilege enjoyed by Russians—an unusual scenario for immigrants—were an important explanation. Those privileges were lost with independence, and the suicide rate in Russians in Estonia became higher than in native Estonians.

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