



What's hot that the other lot got

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TB. Due to the nature of the study design, it was not possible to establish whether the associations were against TB resulting from recent infection or reactivation of latent infection. Nevertheless, these results are consistent with previous studies and warrant further investigation.

BACTERIAL COMPLICATIONS FOLLOWING UPPER RESPIRATORY TRACT INFECTIONS

Due to the increasing incidence of antimicrobial resistance and the lack of emerging treatments, the routine use of antibiotics in upper respiratory tract infections (URTIs) is discouraged. However, a significant number of antibiotic prescriptions are still issued in part due to fear of complications. Cars *et al* (*BMJ Open* 2017;7:e016221) used an ecological time-trend analysis in a prospective cohort study to investigate if the use of antibiotics was associated with nine bacterial complications following URTIs. Data collection was between 2006 and 2015 using a pre-established healthcare administration system. Although the number of prescriptions for antibiotics dispensed for URTIs decreased from 12 to 10 daily doses per 1000 inhabitants per day, there was no significant increase in the prespecified bacterial complications with the exception of retro- and parapharyngeal abscesses. The overall incidence of bacterial complications, with the exception of peritonsillar abscess, following an URTI was very low (<1.5 per 10000 episodes). Although patients not exposed to antibiotics for URTI had a slight increase in three out of nine bacterial complications compared with patients prescribed antibiotics, this may be explained by differential prescribing in patients with more severe symptoms at initial presentation. Overall, the study provides reassuring data on the conservative management of URTIs.

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PROCALCITONIN-GUIDED THERAPY IN RESPIRATORY INFECTIONS

Procalcitonin is an acute-phase reactant with improved discriminatory value for bacterial infection compared with traditional markers such as white cell count and C reactive protein. A meta-analysis performed by Schuetz *et al* (*Lancet Infect Dis* 2018;18:95–107) assessed mortality and treatment failure in patients with an acute respiratory infection receiving procalcitonin-guided therapy versus a control group. The study included 6708 individual patients from 26 trials. Procalcitonin-guided therapy was associated with lower mortality (adjusted OR 0.83, 95%CI 0.70 to 0.99, $P=0.037$), shorter treatment duration (8.0 ± 6.5 days *vs* 9.4 ± 6.2 days, $P<0.0001$) and fewer antibiotic-associated side effects (16% *vs* 22%, $P<0.0001$). However, there was no significant reduction in risk of treatment failure (adjusted OR 0.90, 95%CI 0.80 to 1.01, $P=0.068$). These effects were consistent across clinical settings and types of infections. There was no significant improvement in the duration of intensive care unit or hospital stays. These data support the use of procalcitonin-guided management in respiratory infections in a range of clinical settings to reduce antibiotic use and may improve mortality.

EARLY ADULTHOOD LUNG FUNCTION TO PREDICT OLD AGE HEALTH

Agusti *et al* (*Lancet Respir Med* 2017;5:935–45) present a cohort analysis in which they investigate the association between low lung function in early adulthood ($FEV_1 < 80\%$ predicted, aged 25–40) and respiratory, cardiovascular and metabolic morbidity and mortality. Two large independent cohorts were used (the Framingham Offspring Cohort (FOC) and the Coronary Artery Risk Development in Young Adults Study (CARDIA)) as well as the Framingham Generation III Cohort (GenIII) which includes the direct descendants of FOC. The main outcomes were prevalence and incidence of comorbid diseases as well as all-cause mortality in people with low versus normal FEV_1 . The proportion of individuals

with low FEV_1 in early adulthood ranged from 4% to 13%. In all three cohorts, low lung function in early adulthood was associated with higher rates of cardio-respiratory disease. All-cause mortality was significantly higher in those with early low lung function in FOC (HR 2.3, 95% CI 1.4 to 3.7, $P=0.001$) and ever-smokers (HR 1.8, 95% CI 1.1 to 2.8, $P=0.028$) in an independent and additive fashion. Unsurprisingly, the prevalence of ever-smokers was higher in individuals with low lung function (76% *vs* 64%, $P=0.023$), who also started smoking almost a year earlier (aged 16.8 years *vs* 17.5 years, $P=0.020$). In CARDIA, unlike in the FOC and GenIII cohorts, there were significantly more men with low lung function along with higher rates of childhood respiratory disease. The authors suggest population screening with spirometry in early adulthood to identify individuals who are at significantly higher risk of having earlier comorbidities and premature death.

LANSOPRAZOLE AS A NOVEL ANTITUBERCULOSIS TREATMENT

Drug-resistant tuberculosis (TB) is a major health problem worldwide and therefore potential novel therapeutic agents are welcome. In vitro and animal studies have recently shown that lansoprazole, a proton-pump inhibitor (PPI), has significant activity against *Mycobacterium tuberculosis*. Yates *et al* (*PLoS Med* 2017;14:e1002457) used the Clinical Practice Research Datalink, a primary care database covering 8% of the UK population, to compare the incidence of TB among individuals taking lansoprazole ($n=527364$) versus omeprazole and pantoprazole ($n=923500$). They found that rates of TB were significantly lower among lansoprazole users (10.0 *vs* 15.3 cases per 100000 person-years, adjusted HR 0.68, 95%CI 0.52 to 0.89). There was no apparent interaction with any of the predefined covariates and TB incidence. There was no significant difference between lansoprazole and omeprazole/pantoprazole users in the negative control outcome of myocardial infarction or herpes zoster and no association between GP practice-level prevalence of TB infection and likelihood of prescribing lansoprazole, supporting genuine activity against

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