What's hot that the other lot got

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INHERITED GENETIC SUSCEPTIBILITY TO LUNG CANCER

In this international cross-sectional study (*Nat Genet* 46:736–41. doi:10.1038/ng.3002), researchers analysed data from four lung cancer genome-wide association studies on patients with European descent. The DNA of 11 348 patients with lung cancer was compared with that of 15 861 patients without lung cancer in order to look for genetic traits that may increase the risk of lung cancer development. BRCA2 mutations, well known for increasing the risk of breast and ovarian cancers, were found to be strongly linked to lung cancer, in particular, in squamous cell subtypes where there was more than double of the relative risk. It was also found to increase lung cancer by 1.8 times in smokers. This study provides further evidence for inherited genetic susceptibility to lung cancer, especially in the context of smoking.

MORTALITY REDUCTION IN PNEUMONIA TREATED WITH AZITHROMYCIN

Elderly patients hospitalised with pneumonia and treated with azithromycin have been shown to have a lower risk of death in this American retrospective cohort study (*JAMA* 2014;311:2199–208. doi:10.1001/jama.2014.4304). A nationwide healthcare system database was used to review data concerning 73 690 elderly patients who were treated for pneumonia across 118 hospitals over a 10-year period. Thirty-one thousand eight hundred and sixty-three patients who received azithromycin were matched to controls that received guideline recommended antibiotics (fluoroquinolone or

appropriate β lactam). Ninety-day mortality was significantly lower in the azithromycin group (17.4% vs 22.3%), however, there was an increase in the risk of myocardial infarction (5.1% vs 4.4%) noted. The previously reported risks of cardiac arrhythmias and heart failure with the use of azithromycin were not reported to be significantly higher in this group.

THE RELATIONSHIP BETWEEN THE TIME OF SMOKING THE FIRST CIGARETTE IN A DAY AND LUNG CANCER RISK

According to researchers at the US National Cancer Institute (*J Natl Cancer Inst* 2014;106. dju118 doi:10.1093/jnci/dju118), a shorter time period taken to smoke the first cigarette after waking significantly raises the risk of lung cancer. The risk of developing lung cancer increased by more than double among patients who had their first cigarette within 1h of waking. For patients who smoked within 5 min of waking, the risk was increased by 3.5-fold. After making adjustments in smoking intensity, duration and other known lung cancer risk factors, the study also found that the risk of lung cancer associated with time taken to smoke the first cigarette after waking was stronger in current smokers and, unexpectedly, was found to be higher in light smokers compared with heavy smokers. The authors concluded that assessing this time period between waking and smoking the first cigarette in a day may therefore have a role in lung cancer screening and smoking cessation programmes.

BLOOD PRESSURE REDUCTION WITH CPAP

In this multicentred, randomised, single-blinded clinical trial (*NEJM* 2014;371:2276–85. doi:10.1056/NEJMoa1306766), 318 patients with moderate or severe obstructive sleep apnoea, who had either

established cardiovascular disease or had multiple cardiovascular risks, were recruited and randomised to either a control group (health-style and sleep hygiene education), treatment with CPAP alone or treatment with nocturnal oxygenation alone. Nocturnal hypoxaemia was reduced to similar levels by both CPAP and overnight oxygenation. After 12 weeks of treatment, 24 h mean arterial blood pressure (BP) was noted to be reduced by 2.8 mm Hg more in patients treated with CPAP than with overnight supplementary oxygen ($p=0.02$). Nocturnal systolic BP was reduced by 0.93 mm Hg per each additional hour of CPAP usage every night ($p=0.03$). The effect of CPAP on BP affected diastolic more than systolic BP and the effect was greatest at night. Reduction in BP was seen even in patients on antihypertensives, whose BP was well controlled.

THROMBOLYSIS IN INTERMEDIATE-RISK PULMONARY EMBOLISM

Thrombolysis for pulmonary embolism (PE) is associated with a significantly lowered all-cause mortality (2.17% vs 3.89%) but develops a greater risk of major bleeding (9.24% vs 3.42%) when compared with anticoagulation therapy, according to this meta-analysis of 16 randomised control trials (*JAMA* 2014;311:2414–21). The meta-analysis also included eight trials that enrolled intermediate risk patients, and thrombolysis was again associated with a mortality benefit (1.39% vs 2.92%) in this subset of patients, in particular, if the patient was younger than 65 years of age. In this group of patients, 65 years and younger, major bleeding was not significantly increased. All patients who received thrombolysis were reported to have a lower risk of recurrent PE (1.17% vs 3.04%).

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