



# Highlights from this issue

doi:10.1136/thoraxjnl-2018-212393

*The Triumvirate*

## 'I HAVE SEEN MY DEATH!'

Wilhelm Röntgen took the first X-ray picture in 1895 in his laboratory in Munich: an X-ray of the hand of his wife Anna Bertha. When she saw the skeletal image she is said to have exclaimed 'I have seen my death!' In 1901, Röntgen was awarded the first Nobel prize in physics. His 'röntgenograms' ushered in a new era in imaging with many diagnostic and prognostic applications. One such prognostication is highlighted by Warren and colleagues in this month's journal (*see page 840*). They describe the development and validation of the Radiographic Assessment of Lung Oedema (RALE) score. In a very practical way, they scored chest X-rays and then weighed the lungs of 72 transplant donors to quantify lung fluid. They then validated the score against clinical data in 172 patients with acute respiratory distress syndrome (ARDS). In the validation cohort, RALE score predicted survival. So predictions of death, using X-rays, are not confined to Röntgen's wife!

## FLEISCHNER AND THE BTS: A DIFFERENT TAKE ON NODULES

Felix Fleischner was another influential radiologist, starting his career as Chief of Radiology at Vienna Children's Hospital and ultimately becoming a professor at Harvard Medical School. He gives his name to the Fleischner Society, whose guidelines on the management of pulmonary nodules are the subject of this month's 'Guidelines in Context' piece by Nair *et al* (*see page 806*). This compares the Fleischner Society and British Thoracic Society (BTS) guidelines and aims to help the clinician make pragmatic decisions in the face of subtly divergent advice. The BTS guideline promotes risk prediction models and volumetry. The Fleischner guidelines, on the other hand, recommend a conservative approach to stable pure ground-glass nodules.

## NOT UNDER THE RADAR

Pulmonary nodules appear again in a paper in this month's issue by Chung and co-authors (*see page 857*). During the second world war, the U.S. Army undertook intensive research to improve the detection of enemy aircraft by radar operators. They measured the ability of the operator of a radar receiver to detect aircraft, using a measurement called the Receiver Operating Characteristic. Chung and colleagues use Receiver Operating Characteristic (ROC) curves to study chest CT scans and determined subsequent lung cancer diagnosis through record linkage with a national registry. This population is of particular importance because, unlike previous studies, they were not part of a CT screening trial for lung cancer. They compared the Brock classification model with a solely size based model and found that the Brock model performed significantly better, providing reassurance that pulmonary nodules need not 'slip under the radar'.

## NANOTECHNOLOGY WITH A PINCH OF SALT

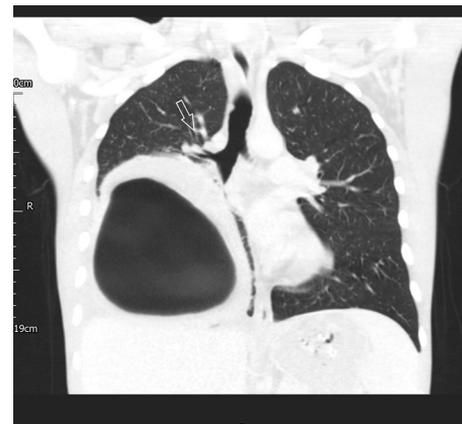
In the early eighties, it was suggested that overactive sodium reabsorption at the apical membrane of respiratory epithelial cells could explain some of the hyper-viscid qualities of airways mucus in cystic fibrosis (CF). This effect is mediated by the epithelial sodium channel (ENaC). Short interfering RNA (SiRNA) can prevent gene expression by breaking down mRNA after transcription. In *Thorax* this month, Tagalakis *et al* study the delivery of SiRNA to primary CF epithelial cells, grown at an air-liquid interface, using a nanocomplex delivery system (*see page 847*). The SiRNA silences the ENaC gene. They observed increased depth of airway surface liquid (essential for mucociliary clearance) and a return of ciliary beat frequency to normal. While translation to clinical trials is some way off, this is a novel and promising approach to correcting the basic defect of CF.

## WAITING FOR AGES

The AGES (Age, Gene, Environment, Susceptibility) Reykjavik study aims to be the most detailed and extensive study on ageing ever carried out. Interstitial Lung Abnormalities (ILAs) are the poor relations of Interstitial Lung Disease. In a Research Letter in this month's *Thorax*, Alexsson and colleagues describe the CT appearances in 5023 AGES participants of whom 378 had ILAs (*see page 884*). They explore whether ILAs matter to the individual in whom they are found. They demonstrate that people with ILAs were less likely to be independent (when measured by activities of daily living); less frequently reported good health; and were less likely to take part in physical activity. So Icelandic ILAs are not just an incidental finding. Replication in a geographically distinct cohort may further implicate ILAs as important in interstitial lung disease. Let's hope we don't have to wait for ages...

## PULMONARY ABSCESS OR EMPYEMA?

The case based discussion will enlighten and intrigue you (*see page 887*).



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