Highlights from this issue

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The Triumvirate

A BUGS LIFE

One of the most topical current areas of research is the role of the microbiome in the pathogenesis of lung disease. While this is not exactly what Disney-Pixar were thinking when the retold Aesop's fable 'The Ant and the Grasshopper' there are some parallels with the study by Mayhew *et al* (see page 422). The basic premise of the fable is to beware of winter before it comes. In preparation for winter Mayhew and colleagues undertook a longitudinal observational study in 101 patients with COPD. They found that the lung microbiome was less stable in patients with frequent exacerbations, and that bacterial exacerbations were more likely to repeated in contrast with viral exacerbations which were not, suggesting that some exacerbation subtypes have non-random chances of repeating in the future, in essence a bug that is 'To work today is to eat tomorrow'. Aesop would be proud.

A BUGS LIFE 2

One of the biggest surprises in the history of Disney-Pixar has been the absence of A Bugs Life Two. The failure to replicate the role of bugs in the lungs of patients with IPF is also somewhat of a surprise. In the case control study by Dr Kitsios and colleagues they could not reliably find any bacterial DNA from the lung tissue of patients with IPF in contrast with their findings from patients with CF (see page 481). One explanation for this finding is the difference between luminal and tissue compartments of the lung in fibrosis. In contrast it appears the lack of replication for A Bugs Life was the commercial success of Antz!

THE TWO POTS

Aesop described how a metal pot wishes to keep the company of the clay pot as the both are swept down the gushing river. The clay pot is however not keen and wishes to keep its distance. In the fable by Bhatt and colleagues (Editors' choice, see page 414) they describe two ways of calculating the risk associated with smoking exposure and discover

somewhat surprisingly that duration alone is sufficient to determine estimates of risk rather than total cigarette consumption estimates using pack-years. Although not the moral of the story Aesop intended when the pot explains 'whether the wave estimates crash me into pack years or years alone, either way the smoker is the only victim'.

THE ASTROLOGER WHO FELL INTO THE WELL

Ennius described it thus 'Quod est ante pedes nemo spectat, caeli scrutantur plagas' otherwise described in Merry Tales and Quick Answers 'O Thales, how shuldest thou have knowlege in heavenly things above, and knowest nat what is here benethe under thy feet?' People may similarly have missed what is beneath their feet when considering the lung function abnormalities associated with HIV. Ronit and colleagues investigated over 1000 patients and 12 000 controls and looked beyond smoking and socioeconomic status to identify that patients with HIV have impaired lung function with important implications for the role of immunodeficiency in pulmonary physiology (see page 431). Maybe Thales of Miletus will have the last laugh?

THE NORTHWIND AND THE SUN

When considering which is stronger therapy for sub-massive PE's, catheter directed thrombolysis or anti-coagulation it may be worth considering the classic fable about persuasion. The northwind blew so hard that the traveller wrapped his coat even tighter around his body, whereas the sun was able to heat the traveller up so he had to sit and remove his coat. In this issue of *Thorax*, Dr Jiminez undertakes a meta-analyses of various anti-embolic approaches to consider which anti-coagulation strategy provides better outcomes for this difficult group of patients, namely those with sub-massive PE (see page 464). While catheter directed therapy may appear stronger than traditional approaches there did not appear to be any clear advantage

on meta-analysis. Time for an Aesop meta-fable?

THE TORTOISE AND THE HARE

Lung clearance index (LCI) is a promising metric but measuring it is a time consuming procedure. Standard spirometry can be performed in a few minutes. A comparison with the tortoise and the hare may therefore be justified. In this month's issue, Rayment and colleagues study pre-school children with cystic fibrosis and show that LCI significantly deteriorates during exacerbations and significantly improves with antibiotics (see page 451). In routine clinical practice, there are no objective measures of lung function which are suitable for pre-schoolers and yet CF may do considerable damage to the lungs in the pre-school years. CF paediatricians don't want to be caught napping—as the hare was in Aesop's fable—and LCI may help avoid this!

THE LION, THE ASS, & THE FOX

A less well-known fable that reports the mortal peril of dividing your dinner equally among guests, in particular, if one of your group is a lion and the other is an ass. Zinchuk and colleagues used the basis of this fable to consider polysomnographic phenotypes of OSA and determine the relationship of the physiological clusters with cardiovascular outcome (see page 472). Seven patient OSA clusters were identified (mild, periodic limb movements of sleep, NREM and arousal, REM and hypoxia, hypopnoea and hypoxia, arousal and poor sleep and combined severe). Increased cardiovascular risk was shown for PLMS (HR 2.02), hypopnoea and hypoxia (HR1.74) and combined severe (HR1.69). Interestingly, conventional AHI severity categories were not associated with increased cardiovascular risk. Learning from experience is integral to advance, as this fable highlights, and indeed this was central to the approach that Delucchi and colleagues used to determine the sub-phenotypes in early acute respiratory distress syndrome from the

ALVEOLI and ARMA trials (*see page 439*). Again, using Aesop's mantra that dividing equally is perilous.

THE TOWN MOUSE & THE COUNTRY MOUSE

In this fable, the experiences, expectations and outcome of the country mouse and town mouse are clearly different with poverty and certainty deemed to be better than plenty and uncertainty. Kale and colleagues have considered this in the assessment of aggressive and non-aggressive stage I non-small cell lung cancer (*see page 459*). The authors determined the prevalence of

non-aggressive lung cancers (slowly progressive, never disseminated, cause minimal symptoms, no effect on survival) from a large, population-based cancer registry. The rate of non-aggressive cancer among 2197 cases of untreated stage I NSCLC was 2.4%. There was no effect based on gender or size of the tumour. These low rates of non-aggressive lung cancer suggest that early stage cancers should be treated with curative intent. A lesson for us all.

A NEW FORM OF ALTITUDE SICKNESS?

Our teaser image this month will test your grasp of how barometric pressure

can affect respiratory health (*see page 495*).

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