Highlights from this issue

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The Triumvirate

Down time has been rare for some and plentiful for others during the COVID-19 crisis. This month's airwaves recommends some films for lockdown viewing.

ADAPTATION

In the 2002 film 'Adaptation' Nicholas Cage plays a Hollywood writer, struggling to produce a screenplay for a deadline. He invents a fictional brother – two writers one film. As the Triumvirate struggle with the deadline for Airwaves, COVID-19 continues to dominate clinical care globally and has demanded adaptation, this time by clinicians. One such adaptation is described on *page 517* of this month's journal. Tonetti and colleagues from Bologna – a city hard hit by coronavirus – describe their bench testing of a circuit which will allow co-ventilation - two patients one ventilator. They used a SIARETRON 4000 T turbine ventilator with test lungs. The authors stress the importance of matching patients for lung compliance and possibly airways resistance and emphasise that this is a technique of last resort. On *page 444*, Pearson and colleagues discuss ethical issues surrounding co-ventilation and ask: '…whether it is best to provide optimal care to a more limited and select number of patients, or suboptimal care to a larger group.' Finally, on *page 448* Irvin Babcock and Paladino discuss some of the previous experience of co-ventilation in man – including its use after the mass shootings Las Vegas in 2017. At the end of 'Adaptation' there is no longer any need to two writers for one film. The Triumvirate hope that the need for two patients one ventilator will also be temporary.

DARK WATERS

The film industry has an established genre of environmental catastrophe movies: 'Silkwood', 'Erin Brockovich' and most recently 'Dark Waters'. In this issue of *Thorax*, Sadhra and colleagues *(see page 468)* investigate the role of exposure to airborne occupational pollutants in COPD, using UK Biobank data. They found that those exposed to dusts; biological dusts; and vapour, gases, dust or fumes (VGDF) showed a significantly increased risk of COPD. The risk was much less in never-smokers. The authors suggest that future research should look at lifetime occupational exposures and COPD. In 'Dark Waters' it took more than a decade before the campaigning lawyer Rob Bilott won his first case on behalf of a plaintiff injured by industrial toxins – let's hope further research on atmospheric pollutants and COPD doesn't take that long.

PARASITE

In the Oscar-winning, South Korean film 'Parasite' a poor young man infiltrates a rich family, posing as a tutor. As the story unfolds, he recruits each member of his family in succession, to various types of employment in the rich home. We have a limited understanding of the process of neutrophil recruitment which contributes to the pro-inflammatory state in cystic fibrosis. A paper in this month's journal by Useckaite and colleagues *(see page 449)* suggests a potential mechanism. Extracellular vesicles (EVs), produced in other inflammatory airways disease, are thought to contain signal molecules which are important in inflammatory cell recruitment. The authors show that significantly higher level of EVs can be found in bronchial lavage specimens from people with CF. Furthermore, an increase in chemotaxis of neutrophils from people with CF seen in the presence EVs. This may contribute to the vicious cycle of inflammation and destruction of lung tissue which leads to bronchiectasis in CF. An equally vicious cycle of destruction concludes the film "Parasite" but the Triumvirate will not spoil the conclusion in case the film is part of your planned lockdown viewing.

THE GODFATHER

The Godfather films are widely regarded as the best films ever made. Part one describes the Corleone Family gang war with the Five Families of New York and is characterised by love, loss and revenge. The Godfather part one starred Marlon Brando, Sterling Hayden and Robert Duvall (BHD) among others. In medicine BHD stands for Birt-Hogg-Dubé Syndrome, which was initially described by three Canadian physicians Arthur R. Birt, Georgina R. Hogg and William J. Dubé in 1977. It is characterised by skin fibrofolliculomas, kidney tumours and pulmonary cysts leading to pneumothorax in 24%. BHD is due to a loss of germline Folliculin but what drives the lung specific effects are unclear. Chu and colleagues *(see page 486)* deleted folliculin one from the mesenchymal cells which led to a reduction of alveolar growth and the formation of cysts in the lung, with an accompanying reduction in collagen three and elastin gene expression. There were also changes in key signalling pathways within the lung. The loss of mesenchymal folliculin has numerous adverse effects. Much like the loss of Vito Don Corleone lead to the unexpected events that installed Michael as the head of 'the family'.

THE GODFATHER PART II

Part two is if anything a better film than the original and it describes the events that lead to generation of the Corleone family business and the consequences of Michael's reign of terror. It highlights the little things that can change the course of the best laid plans. In much the same way Min and colleagues *(see page 476)* looked at microRNA expression from cystic lesions obtained from pneumothorax tissue from patients with BHD and compared it with tissue from primary spontaneous pneumothorax. They found an increase in miR-424–5p and let-7d-5p from patients with BHD and function studies the found that folliculin suppressed these microRNA's and these microRNAs promoted epithelial apoptosis and epithelial to mesenchymal transition. By understanding the little things that make all the difference it might be possible to prevent similar consequences in the future. Maybe the remake of the Godfather films would not have the same level of revenge and brutality if Michael Corelone's miRs were adequately studied. Not sure the films would be much of a success though.

FOUR CAVITIES ONE *THORAX*

First two patients one ventilator — now four cavities one *Thorax*. Whet your appetite with our teaser image and test you diagnostic skills with the image on *page 528* of this month's journal.