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Introduction

Measuring chord compliance was suggested as a way of diagnosing different forms of respiratory distress. A few years later the super surgical patients, found that the chest wall contributed to the lower inflection point and that the response to PEEP depended on whether the patient had a lower inflection point [10]. If a lower inflection point was present, the patient tended to respond to an increase in PEEP as shown in (Figure 1). They also found that the total-respiratory-system Pressure-Volume Curve seemed accurate for estimating the lung upper inflection point. Ranieri found that in normal lungs there was no lower or upper inflection point [11]. In medical ARDS there was a lower inflection point from the lungs, which was on average 28% less than the lower inflection point of the total respiratory system. None of the patients had an upper inflection point. In surgical ARDS they found an upper inflection point from the chest wall, which was higher than the total-respiratory-system upper inflection point by a mean of 28%, and no lower inflection point as shown in(Figure 2). A more recent study, which used the sigmoid equation to fit total-respiratory-system, lung, and chest wall P-V curves from patients with ARDS, or pneumonia, or cardiogenic pulmonary oedema, found that the point of maximum compliance-increase ranged from zero to 8.3 cm H2O and significantly influenced the total-respiratory-system inflection point in only 8 of 32 patients [12]. That may be because there were only 5 extra pulmonary-ARDS patients among 26 total ARDS patients, and those would be patients comparable to the surgical patients [13]. Despite the apparent safety and reproducibility of P-V curves when performed using the same technique on the same day, there are many problems with the routine use of Pressure-Volume Curves in ARDS. Pressure-Volume Curves are very dependent on the volume history of the lungs, so the clinician must be careful when comparing curves from different days, different patients, or different studies [14]. There is no standard method for acquiring P-V curves, and different methods can yield very different Pressure-Volume Curve. The super syringe method generates artifacts because of on-going oxygen consumption during the maneuver, which causes a loss of thoracic gas volume, which is not usually measured, as well as gas-volume changes due to changes in humidity and temperature. Fortunately, during the inflation maneuver the loss in thoracic gas volume is generally equally counterbalanced by an increase in thoracic gas volume from the added humidity and expansion caused by body temperature. These effects, however, are in the same direction during deflation, and they increase hysteresis. The multiple-occlusion method may circumvent that problem. There is no standard method for acquiring Pressure-Volume Curve, and the peak pressure before and during the Pressure-Volume maneuver affect the shape of the P-V curve. Another problem with Pressure-Volume Curves is that they represent the aggregate behaviour of millions of alveoli. Most of the early studies describing the Pressure-Volume relationship in COPD were done with the hope of using the Pressure-Volume Curve to diagnose and establish the severity of emphysema. Since then, CT has supplanted the P-V curve as a means of diagnosing emphysema. Most of the early studies were done on spontaneously breathing COPD subjects rather than on mechanically ventilated subjects. This is probably because in mechanically ventilated subjects with COPD the major concern is for intrinsic PEEP and airway resistance, rather than lung elastic recoil or recruitment. Understanding public health problems such as obesity and, smoking, in terms of affecting women's lung function is of paramount importance to society. There are many risk factors that can cause reduction of respiratory function in women. Most of these factors are preventable.

Conclusion

In attempting to reduce the risk factors to respiratory health, the first steps are to quantify the health risks and to assess their distribution. Some of the most important risk factors in this data set are: age, body mass index, smoking, asthma, educational status and ethnicity. Regarding age for example, it is clear that populations are aging in most low and middle income countries, against a background of many unsolved infrastructural problems. Aging is a process associated with chronic and disabling diseases. Chronic respiratory diseases are among the most frequent and severe of all, also in the elderly.

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