



Abstract P48 Figure 1 Graph showing total BAL volume yield from conventional and disposable procedures

P49 DOES VALSALVA MANOEUVRE REDUCE THE RISK OF COMPLICATIONS IN CT-GUIDED LUNG BIOPSIES?

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Introduction Multiple complications in CT-guided lung biopsy have been described with pneumothorax known to be the commonest.¹ This often leads to patients being admitted to hospital for observation or even drainage.

We hypothesised that increased intrathoracic pressure may reduce complications and a comparative retrospective cohort study was performed with the types and rates of complications recorded in patients instructed to perform a Valsalva manoeuvre versus those who were not.

Methods Patients who underwent CT-guided lung or pleural biopsies performed by multiple operators between January 2005 and December 2014 at Queens Hospital, Essex, UK, were retrospectively identified. Information from RIS reports and images from PACS were analysed. Patients were stratified into two groups, those who undertook Valsalva at time of biopsy and those who did not. Complication rates were assessed for haemoptysis, haemothorax and pneumothoraces including those requiring chest drain insertion. Statistical analysis was performed using Chi square test.

Results 791 procedures were performed over 10 years, 420 patients undertook Valsalva manoeuvre with mean ages 70.1 years \pm SD 12.54: range 21–93. The other 371 patients did not undertake a Valsalva manoeuvre. Their mean ages were 71.1 years \pm SD 11.52: range 27–91.

In total, 119 patients had complications post-procedure: 64 in the non-Valsalva group vs 55 in the Valsalva group (17.25% vs 13.10%, $p = 0.05$).

Rates of haemoptysis were significantly reduced with Valsalva (2.16% vs 0.24%, $p = 0.006$). Pneumothorax requiring chest drain (2.70% vs 1.43%, $p = 0.10$) and those managed conservatively (12.40% vs 11.19%, $p = 0.30$) were higher in the non-Valsalva group.

Rate of haemothorax (0.24% vs 0%, $p = 1$) was greater in the Valsalva group.

Conclusion Our study shows that Valsalva manoeuvre at the time of biopsy helps reduce the rate of complications, with a statistically significant decrease in rate of haemoptysis. Rates of pneumothoraces requiring chest drain insertion and other pneumothoraces were also reduced.

The differences could be explained by physiological changes in pulmonary wedge pressure and positive end expiratory pressure brought about by increased intrathoracic pressure following Valsalva manoeuvre.

REFERENCE

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P50 CHANGING USE OF CT PULMONARY ANGIOGRAPHY IN A UK TERTIARY HOSPITAL OVER A 6-YEAR PERIOD

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Background CT pulmonary angiography (CTPA) is widely regarded as the gold standard test for suspected pulmonary embolism (PE) and is increasingly used as an all-inclusive diagnostic tool for patients with symptoms of acute cardio-respiratory pathology. This has led to an increase in the number of CTPA scans, but no clear reduction in mortality from pulmonary embolic disease. CTPA may be of benefit in making other clinically significant (non-PE) diagnoses, but increased use of CTPA has resource and ionising radiation implications.

Method We reviewed records of patients undergoing CTPA in our centre during the same 6-week reference period in each year from 2009 to 2014 to ascertain the number of scans positive for PE and/or other diagnoses. The clinical relevance of “other diagnoses” was evaluated, as well as whether “other diagnoses” were evident on earlier investigations such as chest X-ray.

Results Patient records associated with 1882 scans were reviewed. The use of CTPA increased by two-thirds over the 6-year study period, with the likelihood of acute PE being diagnosed remaining unchanged (Table 1). Other diagnoses were seen on more than 80% of scans; the majority were either not therapeutically relevant or potentially evident from previous investigations.

Conclusion Our evaluation of experience in a stable population has demonstrated increased use of CTPA scanning with no change in the diagnostic yield for acute PE. The percentage of patients with additional abnormalities has remained stable, implying the population under investigation is similar. It is uncertain if the increase in the incidence of PE is due to detection of previously undetected emboli, and whether increasing use has reduced mortality from PE. Findings also confirm significant use to screen for other causative pathology. Further work should assess the character of the emboli and the overall impact on morbidity and mortality from increasing CTPA use.