



Safety of bronchoscopy after an acute coronary syndrome

Bronchoscopy forms an integral part of the assessment, diagnosis and management of respiratory diseases. In a majority of patients, it is a low-risk procedure with a low complication and mortality rate.^[1]

The procedure and medication used have recognisable/known deleterious effects on the cardiovascular system such as tachycardia, increased cardiac output, hypertension, hypotension and desaturation. For patients with compromised cardiovascular function, these effects may heighten the risk of cardiovascular complications. For patients with underlying coronary artery disease (CAD), the increased risks include induction of rhythm disturbances and/or worsening of myocardial ischemia. Studies suggest that in patients with stable CAD, the incidence of arrhythmias and/or acute coronary syndrome (ACS) is similar to that of healthy subjects during bronchoscopy.

The safety of bronchoscopy in the immediate aftermath of ACS has been poorly studied, with data derived from small sample sizes with no comparator arm. Guidelines therefore continue to advise that bronchoscopy should be delayed for 4 - 6 weeks after an ACS. Other endoscopic procedures have been found safe in the setting of ACS.^[2]

A Canadian group of researchers studied the safety and tolerability of bronchoscopy following an ACS with a 'larger' sample size and use of a matched control group.^[3] The primary aim was to investigate the difference in the rate of re-infarction and 30-day all-cause mortality between the intervention and control groups. The intervention group were all patients with ACS who underwent some form of bronchoscopic procedure within 30 days of the event; the control group consisted of patients who suffered an ACS during the same time period but did not undergo bronchoscopy. The two groups were matched for age, gender, type of ACS and severity of ACS.

A total of 2 181 patients had suffered an ACS during the study period, 87 of which had bronchoscopy within the first 30 days of the

event. The mean interval between the ACS and bronchoscopy was 10.1 8.9 days. The bronchoscopy was done under conscious sedation for 85 of the 87 patients. Fifty-two percent of the patients had undergone a form of coronary revascularization before bronchoscopy. All forms of bronchoscopic procedures were done: simple bronchoscopy, linear and radial endobronchial ultrasound (EBUS), transbronchial biopsies and rigid bronchoscopy. The indications for bronchoscopy included evaluation of nodules, masses, atelectasis, haemoptysis and infiltrates.

The primary endpoint of re-infarction was observed in 1.1% of the intervention group and 2.3% of the control group ($p=1.00$). All cause 30-day mortality was 2.3% v. 4.6%; $p=0.65$.

The authors concluded that when clinically indicated, and benefits outweigh risks, ACS should not be a contraindication to bronchoscopy.

The limitations of the study (retrospective nature and small sample size, even though larger than previous studies) are acknowledged by the researchers. The results should be read with caution and not understood as open season for bronchoscopy post-ACS.

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