



## Service Priorities and Programmes

### Electronic Presentations

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#### **Adherence to International Guidelines in the Use of Proceduralist- Administered Sedation Improved the Safety of Flexible Bronchoscopy**

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#### **Introduction**

Flexible bronchoscopy has become an essential investigation in respiratory diseases and is widely performed in both acute and subacute hospitals. Hypertension and tachycardia are common during bronchoscopy and may lead to myocardial ischaemia. Sedation improves patient comfort and tolerance during bronchoscopy but is associated with respiratory depression and haemodynamic instability. Historically, pethedine has been used locally as the opioid of choice for sedation during bronchoscopy until recently. Latest international guidelines from USA and Europe no longer include pethedine in their recommendations and fentanyl is advised as the agent of choice for proceduralist-administered sedation in bronchoscopy.

#### **Objectives**

To study the cardiovascular consequences and oxygenation of patients undergoing bronchoscopy using pethedine and fentanyl for sedation.

#### **Methodology**

One hundred twenty consecutive patients underwent elective bronchoscopy in the study period. Procedures using bronchoscope of 4.9mm outer diameter were included in the analysis (n=110). Patients received either fentanyl or pethedine for sedation, up to the discretion of the proceduralist. Blood pressure, heart rate and peripheral oxygen saturation were recorded at baseline, when the bronchoscopy entered the vocal cords and then every three minutes of the procedure. The rate pressure product (RPP = HR x SBP/100) were calculated. RPP is an index of myocardial oxygen demand and stress, with values over 200 correlating with myocardial ischaemia in susceptible individual. Severity of cough, patients' satisfaction with procedures and their willingness to repeat procedures were recorded.

#### **Result**

The mean age of the group was 61.7 and male-to-female ratio was 7:4. Mean dose

of topical lignocaine was 4.33mg/kg. Pethedine was used in 94 patients and fentanyl in 16. There was no statistically significant difference between the two groups in patients' satisfaction with procedures, patients' willingness to repeat procedure, cough severity and total doses of lignocaine used. The RPP, BP, pulse and SpO<sub>2</sub> were similar in both groups at baseline. However, the RPP was significantly lower in the fentanyl group than the pethedine group throughout the procedure (at scope insertion: 108.3 vs 134.4, p=0.001; highest: 161.0 vs 188.4, p=0.022), signifying lower risks for cardiovascular complications when fentanyl was used as the sedative agent. None of those patients with RPP>200 (38.3% in pethedine group vs 12.5% in fentanyl group) developed cardiovascular complications after procedures. Our findings echoed with international guidelines that fentanyl would be the preferred agent for sedation during bronchoscopy.