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## TCT@ACC-i2: The Interventional Learning Pathway

**IS PULSE OXIMETRY ADEQUATE IN MONITORING PATIENT'S RESPIRATORY STATUS DURING CARDIAC CATHETERIZATION WITH CONSCIOUS SEDATION?**

Poster Contributions

Hall C

Sunday, March 30, 2014, 3:45 p.m.-4:30 p.m.

Session Title: Complexities and Complications

Abstract Category: 38. TCT@ACC-i2: Complex Patients/Comorbidities

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**Background:** Benzodiazepines and opioids are commonly used for conscious sedation (CS) during cardiac catheterization (CC), but predispose patients to respiratory acidosis and hypoxemia. However, in the CC, only pulse oximetry is used to monitor a patient's respiratory status. We studied the effects of these drugs on acid base imbalance during conscious sedation and if pulse oximetry is adequate at monitoring respiratory status during conscious sedation.

**Methods:** We enrolled 18 patients (pts) undergoing elective CC. Measurement of arterial blood gas at one minute intervals was done from the moment of arterial access until case end. The results were blinded to the operator. Relationships of pH, PCO<sub>2</sub>, and PaO<sub>2</sub> were studied by plotting a time series graph. Significant changes were defined as pH <7.30, PaO<sub>2</sub> 50 mm Hg.

**Results:** No significant change in pH, PCO<sub>2</sub> and PaO<sub>2</sub> was noted in 4/18 (22%) pts. Significant change PCO<sub>2</sub> and PH were noted in 11/18 (61%) cases. There was no drop in SaO<sub>2</sub> in 7 of these 11 (63.6%) pts on supplementary O<sub>2</sub> but continued respiratory acidosis (figure). 5/18 (28%) patients' at the end of the case remained hypercarbic and acidotic with normal P<sub>O</sub><sub>2</sub>.

**Conclusion:** Significant hypercarbia and acidosis occurred frequently during conscious sedation in CC patients. Relying on pulse oximetry in patients with supplemental oxygen may lead to undetected respiratory acidosis in significant number of patients.

Normal pulse oximetry on supplemental oxygen masking hypercarbia and respiratory acidosis resulting in patient receiving multiple doses of fentanyl and midazolam.

