# [GA2-55] Quetiapine as an effective treatment for refractory agitation in a ventilator dependent pre-term infant with severe bronchopulmonary dysplasia on nitric oxide

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Introduction: There is little data describing how to wean Opioids and Benzodiazepines in critically ill infants. Despite the increasing use of atypical anti-psychotics such as Quetiapine (Seroquel) in pediatric patients, there is little data describing the safety and efficacy of this drug in this population.

Case: We present a complex case of sedation and refractory agitation in a 6-month former 26-week male with severe bronchopulmonary dysplasia; ventilator dependency on nitric oxide. This patient has a history of chronic lung disease requiring high ventilator settings, chronic steroid therapy, nitric oxide and boluses of epinephrine. In order to achieve ventilator synchrony, sedation was escalated to a combination of high dose Fentanyl, Midazolam and Dexmedetomidine infusions as well as intermittent Lorazepam, and Methadone doses. In addition, the patient required intermittent Vecuronium infusions and boluses. On attempts to wean the Vecuronium infusion, the patient appeared persistently agitated despite escalating levels of sedation, which we defined as delirium. This agitation was associated with ventilator desynchrony, bronchospasm and respiratory acidosis with capillary carbon dioxide tensions as high as 121 mmHg. Seroquel was initiated at 0.5 mg/kg every 8 hours with the input from the Pediatric Psychiatry team. The Seroquel dose was titrated over several days (Figure 1) to achieve adequate dosing for the weaning of Benzodiazepines and Opioids. After the initiation of Seroquel, the patient appeared less agitated with a trend towards an average decrease in his Premature Infant Pain Profile (PIPP) scores. The PIPP score went from an average of 7.33 for the 24-hour period prior to the initiation of Seroquel to 4.33 for the 24-hour period after the initiation of Seroquel (Table 1). Upon the initiation of Seroquel, there was less agitation and improved ventilator synchrony which facilitated the weaning of Fentanyl and Midazolam over the next month (Figure 2).

Conclusion: Seroquel facilitated the weaning of Fentanyl and Midazolam in this ex-premature infant with severe chronic lung disease. It should be considered as an adjunct therapy in the setting of refractory agitation in the critically ill infant population to minimize the deleterious effects of delirium and agitation as well as to facilitate the weaning of sedation medications.

# Figure 1

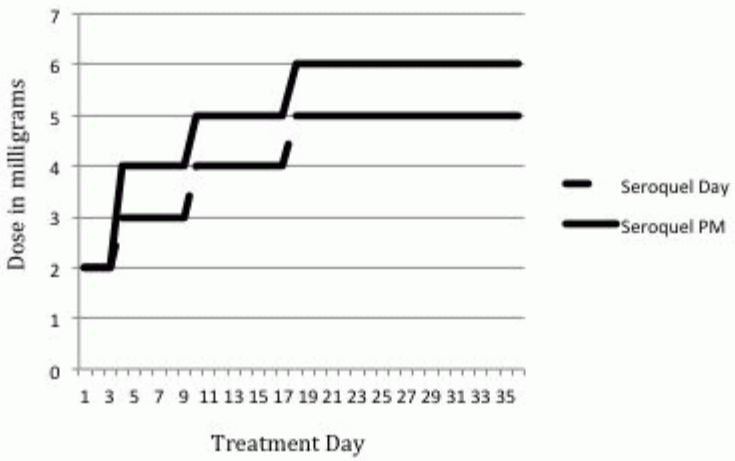


Figure 1. Seroquel dose in miligrams (y-axis) Versus day of treatment (x-axis)

# Table 1

| Table 1: Average PIPP scores before and after treatment | 24 hours before Seroquel | 24 hours after Seroquel |
|---|---|---|
| PIPP (Averaged over 24 hours, 6 individual readings) | 7.33 | 4.33 |

Table 1. PIPP scores on 6 consecutive reading 24 hours before Seroquel initation and 6 consecutive readings 24 hours after Seroquel initiation.

# Figure 2

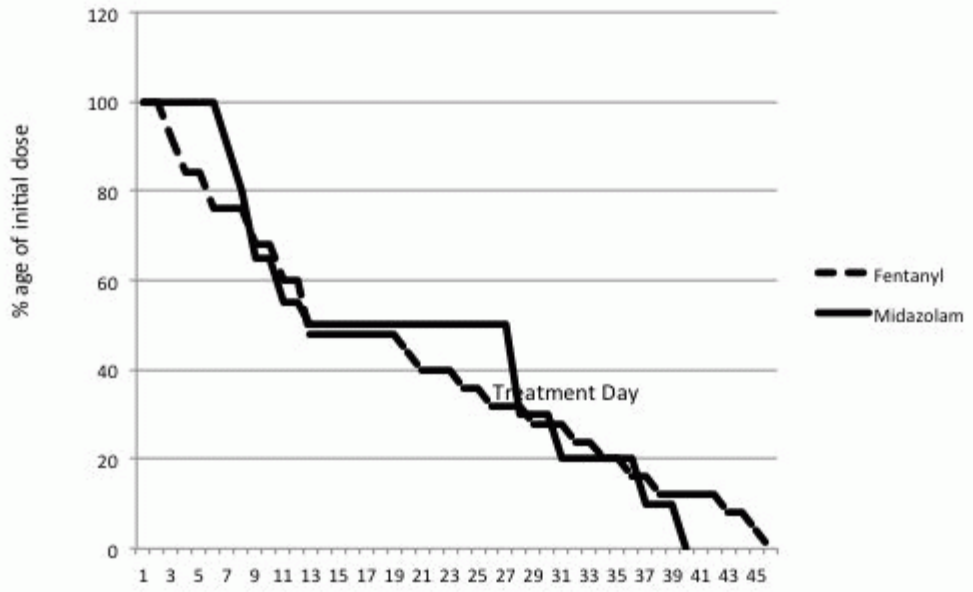


Figure 2: Percentage (%age) wean of initial doses of Midazolam (solid line) and Fentanyl (dashed line) on the y-axis Versus day after initiation of Seroquel on the x-axis.