Management of Pain, Agitation, and Delirium (PAD) in Abbotsford Regional Hospital Intensive Care Unit

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Background

- Pain, agitation, and delirium (PAD) are comorbid conditions commonly experienced by critically ill patients
- Uncontrolled pain and excessive use of sedatives can often lead to delirium
- Delirium is associated with increased mortality, neurological dysfunction, prolonged ventilation and length of hospital stay
- PAD Clinical Practice Guidelines provide recommendations for preventing and treating pain, agitation and delirium in critically ill patients

Objectives

Primary Objective

- Determine the frequency of patients that received appropriate PAD management as recommended by PAD guidelines

Secondary Objective

- Identify areas and reasons not meeting recommendations

Methods

Study Design	Retrospective Chart Review
Study Period	January 2013 – August 2013
Sample Size	Determined by convenience sampling
Inclusion Criteria	Adult patients (≥ 19 years old) Mechanically ventilated for ≥ 12 hours Admitted to ARH ICU
Exclusion Criteria	Acute Respiratory Distress Syndrome Post cardiac arrest Traumatic brain injury Death determined to be imminent

Flow Diagram of Patient Selection

304 patients extracted from Fraser Health Regional Critical Care Database

Randomized by month of admission

5 patients from each month that met inclusion criteria included in study

Results

Table 1: Patient Characteristics

	# (N=40)	%
Age, mean (SD)	63	(±14)
Male	26	65
APACHE II score, mean (SD)	21	(± 8)
Primary admission diagnosis		
Sepsis	10	25
Pulmonary	9	23
Cardiovascular	7	18
Neurological	6	15
Risk Factors for PAD		
Hypertension	18	45
Chronic pain	12	30
Neuropathic pain	7	18
Alcohol use	7	18
Benzodiazepine use prior to admission	3	8
Psychiatric history	2	5

Table 2: PAD Management Practices

	#	%
Pain		
BPS/VPS recorded per shift	2	
Intermittent opiate doses given	434	
Doses associated with pain score	186	43
Doses reassessed within 30 minutes	79	18
Continuous opiate infusions before intermittent doses given	19	48
Patients given neuropathic pain medications (n=7)	2	28
Patients given non-opioid analgesia	11	28
Agitation		
Target RASS of -2 to 0	32	80
RASS recorded per shift	3	
Intermittent sedative doses given	352	
Doses associated with RASS score	81	23
Doses reassessed within 30 minutes	61	17
Doses given with analgesia	71	20
Continuous sedative infusions before intermittent doses given	24	60

Table 2: PAD Management Practices (Con't)

	#	%
Delirium		
ICDSC recorded per shift	< 1	
Patients received antipsychotics	12	
Patients that received antipsychotics with documented delirium	3	25
Awakening and Breathing Coordination		
SAT Attempts (n=122 infusion days)	37	30
SBT Attempts (n=180 ventilator days)	62	34
Patients extubated without SBT (n=40)	20	50

Limitations

- Retrospective chart review
- Sample size of convenience

Conclusions

- No patients were managed appropriately per PAD guidelines
- Monitoring of PAD did not meet recommended frequency
- Not all doses of analgesics, sedatives and antipsychotics were given based on validated score assessments
- Less than 50% patients received non-opioid analgesics
- Patients with neuropathic pain were not adequately treated
- SAT and SBT were not coordinated and performed daily

Recommendations

- Monitoring frequency of PAD should be increased
- Further education regarding use of validated scales and documentation is required
- Education regarding use of analgesics, sedatives and antipsychotics is required
- Non-opioid analgesics and neuropathic pain medications should be considered
- SAT and SBT should be coordinated when appropriated
- Documentation tools should be re-evaluated

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