

8.14 Usage of Non-Invasive Ventilation (NIV) in Patients with Acute Hypercapnic Respiratory Failure, in comparison to the British Thoracic Society (BTS) guideline in Rural Ireland, West Cork.

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Background: Respiratory failure occurs due to the inability of the lungs to provide sufficient alveolar ventilation to maintain normal arterial oxygen and carbon dioxide levels.

Methods: Retrospective analysis conducted over three months by various teams on patients who required NIV in High Dependency Unit. A comparison between the study cohort and BTS guidelines regarding the criteria for initiation of NIV therapy.

Results: 50% of patients had Type 1 Respiratory Failure and were commenced on AIRVO. Another 41.6% of patients who proceeded to Bilevel-positive airway pressure had Type 2 Respiratory Failure. Within the study cohort, 75% had pre-NIV arterial blood gas (ABG) taken as per BTS guidelines. Subsequent ABG monitoring fell short, with 33.3% performed in 1st hour and 25% in the 4th-6th hour.

Conclusion: Some aspects of this study were compliant with the BTS guideline - the indication of commencing on NIV and having ABG taken before the same. Improvements in the form of providing an escalation plan in the event of deterioration, periodic repetition of ABG, and subsequent titration of the NIV settings as per clinical correlation will ensure adherence to BTS guidelines and optimize therapy benefits for patients.

Keywords: non-invasive ventilation

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References:

Davidson AC, Banham S, Elliott M, et al, BTS/ICS guideline for the ventilatory management of acute hypercapnic respiratory failure in adults, Thorax 2016;71:ii1-ii35.