



AIRWAY CARE AND CLINICAL OUTCOME IN NEURO INTENSIVE CARE UNIT

Neurology

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KEYWORDS

BACKGROUND:

Airway, breathing and circulation works in a cascade. Airway block results in hypoxia and cardiac arrest. Neuro intensive care includes airway care, hypothermia, basic life supports monitoring, neurological status monitoring, and intracranial pressure management.

AIM:

To study the role of airway care management in neuro intensive care unit in a regional neuro center.

METHODS:

Airway management includes: Pharyngeal care–suction. Tracheal care – suction, prevention of infection and blockage. Esophageal care – prevention of aspiration of gastric contents. Head in proper position. Targeted temperature management. Chest physiotherapy. Timely tracheal intubation. Maintaining GCS more than 7. protecting airway reflexes such as coughing and swallowing, treatment of underlying neurological illness.

RESULTS:

This study done in 80 patients on tracheal airway care, males 60-(75%), females 20-(25%). Among 80 patients, survived 63-(78.7%), death 17-(21.3%). GCS <7 total 14, survived 7, death 7-(P<0.00001). Hemorrhagic stroke with massive bleed 20. survived 13-(65%), death 7-(35%).Ischemic stroke with massive infarct 4, survived 2-(50%) died 2-(50%). CNS infections 13, survived 9-(69.2%), death 4-(30.7%), (TBM-2, pyogenic-1, fungal-1). Demyelination ADEM-3 survived (100%), GBS 7, survived (100%).Motor neuron disease with respiratory failure 1-patient, died. OPC poisoning 3, survived 2-(66.6%) and 1-died due to intermediate syndrome.Metabolic encephalopathy 6, survived (100%). Status epilepticus 5, survived (100%). Auramine dye poisoning with encephalopathy 7, survived (100%).Attempted hanging with encephalopathy 4, survived (100%). Neurotoxic snakebite 4, survived (100%). Myasthenia gravis with respiratory failure 1, died. Septic encephalopathy 2, survived 1, (50%), death 1, (50%).

The mortality is due to hemorrhagic stroke with massive bleed, stroke with massive infarct, septic encephalopathy, complicated CNS infections, respiratory failure due to motor neuron disease, OPC poisoning and myasthenia gravis.

DISCUSSION:

Neuro critical care is a medical field that treats life threatening conditions of the nervous system and identifies, prevents and treats secondary brain injury.

Neuro critical illness includes Stroke,seizures,aneurysms,traumatic brain injury,spinal cord injury,status epilepticus,cerebral edema,encephalitis,brain tumor,respiratory failure secondary to neuromuscular diseases.

Airway management includes a set of maneuvers and medical procedures performed to prevent and relieve airway obstruction. This ensures an open pathway for gas exchange between the patients lung and atmosphere.

Basic techniques -Head and Neck Maneuvers ,Abdominal Thrust,Back Blows.

Advanced Techniques

-Supraglottic Devices: Oropharyngeal, Nasopharyngeal

-Infraglottic Devices:Tracheal Intubation

-Surgical Techniques: Cricothyrotomy,Tracheotomy.

Airway management in the intensive care unit has become increasingly complicated in recent years due in part to the growing prevalence of the obesity as well as an increasing number of patients who present with several comorbidities.These patients have a difficult airways and pose a challenge for the clinicians for intubation.

In this study neurocritical care patients with airway management were analysed. Total amount of survival -78.7% and death were 21.3%.Patients with GCS<7 had 50% mortality. Patients with hemorrhagic stroke has 35% mortality. Ischemic stroke with massive infarct had 55% mortality. Among CNS Infections ,Tuberculous meningitis, Pyogenic meningitis and Fungal CNS infections are associated with mortality. Patients with Myasthenia gravis and Motor neuron disease with respiratory failure showed 25% mortality. Patients, with Demyelination disorders, ADEM and GBS had good outcome. Patients with OPC poisoning died of intermediate syndrome. Patients with metabolic encephalopathy, status epilepticus, auramine dye poisoning, Attempted hanging, neurotoxic snake bites had good outcome.

The higher mortality is seen in hemorrhagic stroke with massive bleed, Ischemic stroke with massive infarct, complicated CNS infections, respiratory failure due to Motor neuron disease, OPC poisoning and myasthenia gravis.

CONCLUSION:

Clinical outcome in neuro critical care depends on timely airway management, favorable GCS and management of underlying disease process. Hence timely airway care management place major role in clinical outcome of neuro intensive care unit patients.

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