

(A Health Awareness Initiative)

NEURO NEWSLINE

MANAGING HEAD AND SPINE TRAUMA - a challenging task !

Road traffic accident is the leading cause of head and spine injury in India despite four lanes and fly-overs everywhere. However there are other causes too which include a fall, assault, sports and work place injuries. Head trauma can be disastrous at times leading to death or making a person disabled for the rest of his/her life.

Head (Brain) trauma may be Primary or Secondary. Primary injury occurs at the time of impact which may be widespread (Diffuse axonal Injury) or localized. Secondary injury applies to other co-existing problems that develop very rapidly; for example one can develop hypoxia (drop in oxygen level), hypovolemia (decrease in circulatory blood volume) and cerebral hypoperfusion owing to raised intracranial pressure (ICP), epileptic fits and infection. Most of the secondary injuries are treatable and preventable if addressed on time. The Glasgow Coma Scale (GCS) is the universal guideline used for evaluating the conscious level of a head injured patient. The scores range from 3 to 15 and based on this GCS, head injuries are classified as Minor (GCS 13-15), Moderate (GCS 9-12) and Severe (GCS < 8). The pupils, their size and reaction to light goes hand in hand with the GCS in predicting the ongoing

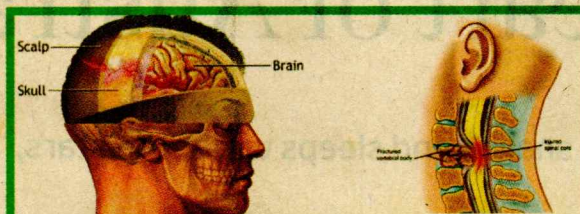
events in the brain and the outcome.

The Computed Tomography (CT) scan of the brain is the gold standard in acute head injury which

NEURO-ICU:

Management of a head injury patient in a neuro critical care unit require special skills to identify problems at an early stage

injuries are thus managed in the neuro intensive care unit which also has a good operation theatre back up to handle emergency surgeries as and when it is needed.



“ Resuscitation of a head injury victim in the first few hours (golden hour) decides the end result ”

gives enormous information of the injuries that occur following trauma. Patient may have a haemorrhage / haematoma (bleed), contusion (bruise), cerebral edema (swelling), shift of brain structures or skull fracture. The CT brain helps the neurosurgeon / intensivist in deciding the course of treatment.

Resuscitation of a head injury victim in the first few hours (golden hour) decides the end result. This is done in the emergency room (ER) where the three vitals: A-Airway, B-Breathing, C-circulation, the initial GCS and the associated injuries are addressed without delay and appropriate treatment is started. Once patients are stabilized they are transferred for a CT scan. Brain injured with a GCS of 8 and less, or a polytrauma patient who is unstable need ventilatory assistance.

and rectifying them. Patients receiving anti brain edema measures should be on a central venous access for effective drug delivery. Adequate anticonvulsants, pain relievers and appropriate antibiotics are started. Ventilatory support in the critically injured is vital and must be backed by routine analysis of arterial blood gas. Patients on endotracheal tube long term should be transferred on to a tracheotomy earlier. Intracranial pressures should be monitored with bedside ICP monitors, wherever there is a need based on the hospital protocol. Periodic CT scans are done to look at the response to therapy. Head

SPINE TRAUMA:

Spine trauma is yet another important aspect to consider in head injured patient, as an injury to the cervical spine/neck may coexist and should not be missed. Spine injury affects motor movements of the limbs by compression of the spinal cord or nerve roots by a fractured bone chip or a disc leading to quadriplegia/paraplegia. MRI (Magnetic Resonance Imaging) is the investigation of choice supported by CT/X Rays. Based on the radiological findings and neurological deficits, the patient undergoes either conservative or surgical treatment (decompression and spinal fixation /stabilisation). The outcome and the ultimate prognosis depends on the severity of the injury, the time of initiating treatment (earlier the better) and of course the age factor & and co morbid status of the patient.

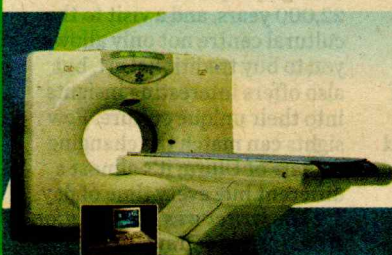
Author

Dr. Joseph Sanjay Manoj, M.D., PGDEM
Intensivist - Emergency & Critical Care

Dr. M. J. Arunkumar, M. Ch.(Neurosurg), DNB (Neurosurg)
Senior Consultant Neurosurgeon

Hannah Joseph Hospital, 134, Lake View Road,
K.k. Nagar, Madurai 625 020.

MANAGEMENT IN



TRAUMA SERVICE



Hannah Joseph Hospital

Institute of Neurosciences & Trauma

134, Lake View Road, K.K.Nagar, Madurai - 625 020 Ph : 0452 - 2585822, 3918401.

E-mail : drmjranunkumar@gmail.com Website : www.hannahjosephhospital.com