

## **Successful Management of Head Trauma in a Dog with Frontal bone Fracture**

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**Introduction:** Primary injury to the brain is a direct result of trauma due to the skull fracture and blood vessel disruption. Head injury is a dynamic process in which the outcome depends not only on the severity of the initial injury, but also on the resulting secondary effect. Secondary injury develops because of anatomic and physiologic changes that occurs as a result of the primary injury and includes hemorrhage, cerebral edema, increased intracranial pressure, and ischemia.

**Materials and methods:** A 5-year-old male Miniature Schnauzer was presented with stupor, inability of standing head crepitation, bleeding from nose and right ear by hit by car.

**Results:** Neurological examination revealed positive response of withdrawal test and menace response. And slow pupillary light reflex of both eye, involuntary nystagmus of both eyes and head tilt were examined. Serum chemistry profile and CBC revealed extremely elevated AST, ALT, glucose, CK and moderate leukocytosis, erythrocytopenia. On radiologic examination, fracture of frontal bone was identified but initial assessment evaluation for all major body system of patient was not specific except cranial region. Therefore, initial emergency management was performed with oxygen supplementation, mannitol to encourage regional cerebral blood flow and decreased intracranial pressure, hypertonic saline to promote volume expansion and reduce cerebral edema. Following fluid therapy on the basis of frequent assessment of arterial blood gas and electrolyte to restore of blood pressure were applied to this patient. Patient recovered thoroughly a month of therapy and presented normal to the brain stem reflex.

**Clinical relevance:** In case of head trauma, initial emergency management based on the critical assessments of metabolic states such as arterial blood gas analysis and electrolytes is very important to save the patient.

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