

Case Report

Management of Craniocephalic Trauma in a Neonatal Puppy : A Case Report

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Abstract

A 16 days old male non-descriptive puppy was presented to the Teaching Veterinary clinical complex with the history of a dog bite. On physical examination the head appeared to be swollen and the puppy had stuporous mentation, recurrent seizures and a depressed respiratory rate. Emergency treatment was given after which pup regained normal mentation with normal vitals and the Episodes of seizures ceased to occur.

Keywords: craniocephalic trauma, cushing's reflex, mannitol, neonatal, intracranial pressure, cheyne stokes breathing

Introduction

Craniocephalic trauma is a serious and commonly presented emergency at veterinary clinics and hospitals. Quick diagnosis and immediate stabilisation are needed to prevent severe morbidity and mortality. Etiology can range from automobile trauma, fall from height (high rise syndrome), trauma caused by bites on head and can be presented as isolate injury to head as well. external wound may or may not be present depending on the etiology. Craniocephalic trauma is mostly associated with traumatic brain injury due to which there's an increase in intracranial pressure which manifests as Cushing's reflex resulting in Cushing's triad (decreased heart rate (bradycardia), decreased & irregular respiratory rate and increased blood pressure). This increase in intracranial pressure can lead to brainstem herniation and death if immediate medical intervention is not provided.



Fig:1 radiograph showing Defect in the cranium and the Soft tissue swelling on head. Fig: 2 head is elevated at 30 degrees to aid in decrease the Intracranial pressure.

History and examination

A 16 days old neonatal puppy was presented to the Teaching veterinary clinical complex with a history of dog bite and un responsiveness and recurrent seizures. Clinical examination revealed a swelling at the head, mild hypothermia and irregular and depressed breathing rate consistent with cheyne stokes breathing. On the basis of history and clinical examination diagnosis of Craniocephalic trauma causing increased intracranial pressure manifesting as Cushing's triad was made.

Treatment and Management

Main goal of the treatment was to decrease the increased intracranial pressure. The head of the puppy was elevated between 15 to 30 degrees to aid in venous flow from the head and flow by oxygen was started. Intravenous Mannitol was given at 1gm/kg over 15-20 mins to decrease intracranial pressure (daniel j. Fletcher , 2009) . Intrarectal diazepam at 1mg/kg was administered to stop the ongoing seizure (carlos torrente artero , 2017) . Meloxicam at 0.2mg/kg PO was given for analgesia. Intravenous dextrose 20% was given at rate of 1ml/kg to maintain euglycemia. As there was no external wound antibiotics were not given. The puppy regained consciousness and the vitals became normal after 15-20 mins. Radiographs were taken after the stabilization to know the extent of cranial fracture. A discontinuity was observed in the cranium. The decision was made to manage it conservatively given

patient's age and extent of damage. After careful monitoring and no reoccurrence of clinical signs for 2 hours the puppy was discharged with oral meloxicam bid and intrarectal diazepam sos for seizure control. The owner was instructed to provide rest to the puppy and regular feeding to maintain euglycemia and to come back for a follow up the next day. The puppy was active with and the size of the swelling appeared to be decreased on the follow up next day and there was no complaint of seizure episodes. Meloxicam po was given for further two days and the puppy recovered uneventfully.

Reference

- Daniel j fletcher (2009) small animal critical care medicine , saunder elsevier. p .660
carlos torrente artero (2017) small animal emergency care (quick reference guide) p.88

