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Management of traumatic proptosis in a pug: A case study

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Abstract

A three years old male pug dog, weigh 10 kg was presented to Jai Pet Care Clinic Raebareli, Uttar Pradesh for treatment with unilateral traumatic proptosis. All clinical parameters were normal. Physical examination revealed partial prolapse of right eye globe with severe periorbital edema, haemorrhage, absence of menace and presence of miosis. Therapeutic management done by administration of triflupromazine @4mg/kg I/M for sedation, dexamethasone and gentamicine 0.2ml each in combination injected through intra palpebral route, which was repeated on 5th day. Animal was also given intramuscular injection of gentamicin @5mg/kg, dexamethasone @0.125mg/kg, vitamine B complex 2.0 ml and chlorpheniramine maleate @0.5mg/kg only once for 5 consecutive days. Eye drop of moxifloxacin and dexamethasone 4 times a day for instillation, chloramphenicol ointment 4 times a day for local application and enrofloxacin @5mg/kg orally once for 7 days were used. Animal recovered successfully after 7 days of regular treatment. Vision was assessed by simple vision testing using junction box, after 15 days of recovery and found normal.

Keywords: Pug, proptosis, therapeutic management

Introduction

Proptosis is forward displacement of globe which occur secondary to any blunt trauma to head [7]. Proptosis typically occurs in dogs following trauma to the face or head. Certain breeds of dog are more prone to eye proptosis than others because of their differences in facial conformation. The most common cause of proptosis in small breed dogs is a fight with a larger dog. During trauma, the globe is luxated from the orbit, and eyelid spasms prevent its retraction. Secondary orbital hemorrhage and swelling displace the globe further from the orbit following corneo-conjunctival drying and malacia [3]. Prognosis depends on pupil size and reflexes, duration of exposure, other globe or orbital damage, breed and other systemic trauma. Approximately 40–60% of dogs, but very few cats, recover vision. Traumatic proptosis can occur in any breed and in both dogs and cats. Only 20-40% of dogs that have the reattachment of the eyeball regain their vision.

Case history and observations

A three year old male pug of 10 kg weight was presented at Jai Pet Care Clinic Raebareli, Uttar Pradesh with unilateral traumatic proptosis having recent history of blunt head trauma by hitting head against the wall. Clinical examination revealed partial prolapse of right eye globe (fig.-1) through the pulpebral fissure with severe periorbital edema (fig.-2), haemorrhage without fracture of skull. There was absence of menace and presence of miosis. Corneal examination revealed concurrent finding of pigmentary vascular keratitis. All clinical parameters of the pug were normal.



Fig 1: Unilateral partial proptosed globe in a pug



Fig 2: Periorbital edema

Treatment and Discussion

The treatment options for proptosis are enucleation, visceration or replacement with tarsorrhaphy depending on viability of extraocular tissues and eye [9]. There is no

correlation between time of trauma and presentation to vision of dog and early presentation for early treatment reduce inflammation and edema [1]. Treatments of proptosis depend upon the type, duration of trauma and damage to globe. In this case, dog was presented 48 hours after trauma with above mentioned history. Treatment was started using triflupromazine @ 4mg/kg body weight; the protruded eye ball was cleaned with sterile pads soaked in normal saline to remove dirt and debris, followed by intrapalpebral injection of gentamicin and dexamethasone (0.2ml each) in combination (fig.-3). Intramuscular injection of gentamicin @5mg/kg body weight and dexamethasone@ 0.125mg/kg body weight, chlorpheniramine maleate@0.5mg/kg body weight along with 2ml vitamine B complex was given once daily for 5 days. Intrapalpebral injection of gentamicin and dexamethasone repeated on 5th day. Pug was given eye drop of moxifloxacin and dexamethasone 4times a day for instillation and chloramphenicol ointment 4times a day for local application. Tablet of enrofloxacin @5mg/kg body weight given orally once for 7 days. Animal recovered successfully after 7days of regular treatment (fig.-4).



Fig 3: Interpalpebral injection



Fig 4: Completely recovered eye ball

This has also treated the Pug having proptosed globe by using intravenous ketamine and diazepam @ 10mg/kg and 0.5 mg/kg, respectively taken in a syringe [8]. After lubricating the cornea with ofloxacin eye ointment, the proptosed globes were manually replaced and followed by temporary tarsorrhaphy to retain in position. Post operative antibiotics (amoxicillin-clavulanic acid @ 10mg/Kg) and corticosteroids (dexamethasone, 1mg) were administered for 5 days. Topical anti-inflammatory (0.5% flubriprofen, 4 times daily), antibiotic (0.3% tobramycin, 3 times daily) and cycloplegic (1% atropine, once at night) were instilled for 10 days. The sutures were removed after 10 days and there was uneventful recovery in terms of globe retention and resolution of pigmentary keratitis, but the animal could not regain its vision. For the treatment of replacement of globe in most of the cases lateral canthotomy followed by temporary tarsorrhaphy was performed with parenteral, oral and topical medications in non-descript and Pekingese dog while only tarsorrhaphy in Spitz dog for 7 days and performed tarsorrhaphy in pug for 10 days with oral and topical medication [6, 8]. A mongrale dog treaded by using tarsorrhaphy following parenteral antibiotic with topical medication but resorption of eyeball with no vision was noticed [9]. Thus, our therapeutic management was successful with high prognosis for proptosed globe. Vision was normal in treated pug as assessed after 15 days of recovery by simple vision testing using junction box.

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