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A STUDY OF OCULAR MANIFESTATONS OF HEAD INJURIES IN ACUTE CASES

Ophthalmology

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KEYWORDS

MATERIALS AND METHODS

The study was conducted in RIOGOH and Neurology dapartment in Government General Hospital Chennai for a period of about 2 years A total of about 50 patients were included in the study The study group consisted of patients in acute phase only. Exclusion criteria were patients with direct ocular injury,blow out fractures,chronic cases and pre - existing ocular lesions. A detailed history of the type of head injury was elicited . A complete neurological and ocular examination was done. The events that immediately followed injury such as Loss of consciousness/ amnesia and its duration ,any ENT bleed or any convulsive episode was elicited . Ocular examination included orbital edema, ecchymosis,lid injuries ,injuries to the conjunctiva , cornea, lens and retina. The pupil size ,shape and reaction to light was recorded. Patient's Visual acuity, Digital intra ocular tension and fundus examination was done.A complete neurological examination was done .0ther routine lab investigations like blood sugar,urea, creatine and electrolytes,CT and MRI scans results.

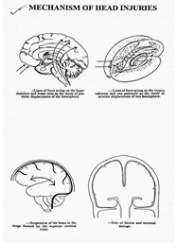
RESULTS AND DISCUSSIONS

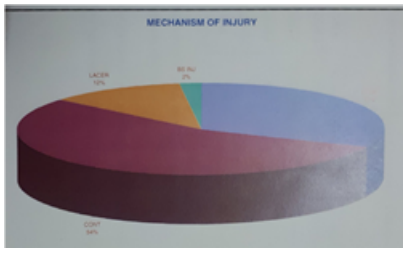
Head injury is more common among males -62%.This study was conducted at a tertiary level hospital and does not correlate with the true incidence among the general population. In this study population maximum number of patients were in the age group 21-30 and the next most affected group was 31-40.Males were more affected than females.RTA was the most common mode of injury.Other forms of injuries were assault, fall from a height.

DYNAMIC injury was the commonest mode of injury representing 60%

MECHANISM OF INJURY - CONTUSION injury was the commonest mechanism of injury. CONCUSSION was the next most common .Brain stem injury was rare.

PRESENTING MANIFESTATIONS -16 patients had only ocular manifestations.20 patients had associated cranial fractures such as parietal bone, occipital bone and base of skull.14 patients had other systemic involvements





PUPIL SIGNS - 13 patients had normal reacting pupil. These were due to concussive injuries and were associated with good prognosis.2 of these cases were due to coup injury to the occipital lobe. These were associated with decreased visuai acuity. Prognosis was good.

PUPIL SIGNS AND REACTION -Bilateral fixed and non-reacting pupils were seen in 2 patients -1 was due to direct brain stem injury and was due to extra dural hematoma of the posterior fossa .5 cases of RAPD were due to traumatic optic neuropathy.Out of 11 cases of unilateral dilated and non -reacting pupil,2 were due to traumatic mydriasis ,6 were due to 3rd nerve palsy .3cases were due to tentorial herniation.

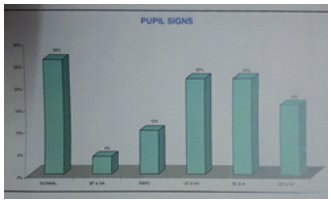
11 cases of bilateral constricted and reacting pupils were due to pontine hemorrhage.

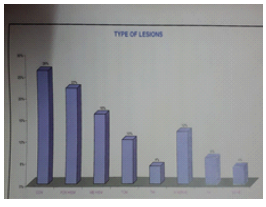
8 cases of bilateral mid dilated and non-reacting pupils were due to mid brain lesions.

CORRELATION BETWEEN PUPIL SIGNS AND SITE OF LESION
Bilateral consticted pupil due to pontine hemorrhage was due to release of inhibition of Edinger Westphal nucleus of the injured pons. Mid - dilated pupils in midbrain lesions were due to lesions of both the sympathetic and parasympathetic tracts.

RAPD due to optic nerve injury was due to compression of the optic nerve within the optic canal due to edema and evolving haematoma.

Tentorial herniation resulted from hematoma compressing the 3rd nerve.The pupillary dilation occured first because of the superficial location of the pupilomotor fibres.This is very important and ominous and patients were immediately taken for surgery.





TYPE OF LESIONS

The lesions in the pons,mid brain and medulla were caused by various extra dural,sub dural and intra cerebral hematomas.

cases of intra cerebral hematoma was mostly due to laceration injury involving both brain and skull and were associated with very bad prognosis.

Tentorial herniation caused by extra-dural hematomas presented with unilateral dilated non-reacting pupil.Extra ocular movements was affected late.

In contrast lesions causing 3rd nerve palsy presented with pupillary signs and restricted extra-ocular movements earlier than in tentorial herniation .

CONCLUSION

A total of about 50 patients were seen Males were more affected tha females Qcular manifestations- pupillary signs,symptoms ,position and extra ocular movements played a vital role in identifying the site and location of lesion in the acute phase of head injury.

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