Case Report

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Pellet impaction at identical site in both orbits

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Abstract: Intra orbital foreign bodies are relatively uncommon and constitute 2.9% of ocular injuries. Pellet injury of orbit is also uncommon and constitutes 2.4% of orbital injuries We present an unusual case of bilateral orbital pellet injury where both the pellets were seen at identical positions in both orbits.

Keywords: orbital trauma, pellet injuries, penetrating injuries

INTRODUCTION

Intra orbital foreign bodies are relatively uncommon and constitute 2.9% of ocular injuries[1]. Pellet injury of orbit is also uncommon and constitutes 2.4% of orbital injuries[2,3]. Pellet injury orbit is unilateral in 68.2% and bilateral in 31.8% of cases[4]. We are presenting an unusual case of bilateral orbital pellet injury where both the pellets were seen at identical positions in both orbits.

Case Report

A thirty years old man presented with history of assault by air gun. After the injury, patient had complete loss of vision of both eyes. The wound of entry was through upper eyelid on right side and lower eyelid on left side. There was bilateral ecchymosis of eyelids, axial proptosis, hazy cornea and total hyphema. There was total loss of vision in both eyes with restricted eyeball movements.

On X-ray skull AP view, pellets were seen in both the orbits (Fig 1), which on lateral view were superimposed on each other at the orbital apices (Fig 2). CT Scan showed well-defined hyper dense pellets at the orbital apices with deformed globe showing hemorrhage (Fig 3).

Enucleation of both the globes were done along with removal of pellets.Enucleation of both the globes were done along with removal of pellets.

DISCUSSION

Intra orbital foreign bodies are relatively uncommon and constitute 2.9% of ocular injuries[1]. Usual causes of intra orbital foreign bodies are flying iron particles, wood, glass, industrial accidents and firearm injuries. Pellet injury constitutes 2.4% of all orbital injuries[2,3] Mean age of presentation is 21 years (8-63 years). Sixty nine percent of casualties occur during normal working hours[5]. Pellet injury orbit is reported to be unilateral in 68.2% and bilateral in 31.8% of cases[4].

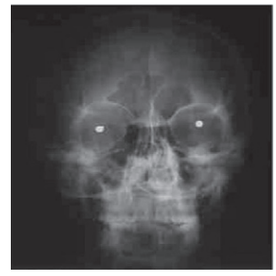

Fig 1 : Skull AP View Showed pellets in the center of both the orbits

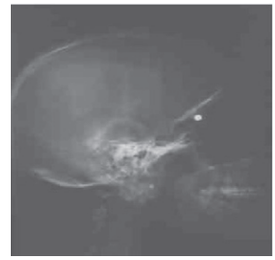

Fig 2: Skull Lateral View Both orbital pellets superimposed on each other at the orbital apices

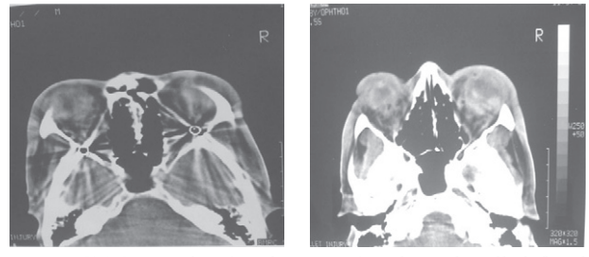

Fig 3: CT Scan orbit (axial sections) : showed well defined hyperdense pellets at the orbital apices with deformed globes showing haemorrhage. Multiple streaky opacities are seen in the retro-orbital fat suggesting haemorrhages. Optic nerves are not well defined suggesting contusion / avulsion of the optic nerves

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Accurate localization of foreign bodies in the region of orbit is vital for correct management. Orbit is shaped like a horizontal pyramid and penetrating objects are directed towards the apex of orbit, providing ready passage into intra-cranial cavity [6]. These injuries are best evaluated by CT scan. Both axial and direct coronal views are done with 3 mm sections.

Pellet injuries are usually associated with severe contusion, disproportionate to size of pellet[7]. Extensive ocular disorganization, direct optic or macular injury, no light perception on initial examination and multiple pellets injuries are predictive of poor outcome (14% and 19.3%)[4,8].

Current treatment modalities allow for the repair of most of the tissues damaged in penetrating ocular injuries. Cornea, lenses and even sclera can be replaced by eye bank tissue or prosthetic devices. Vitreous haemorrhages, opacities and retinal detachments can be repaired. Eye damaged beyond repair, blind painful eye, phthisis, endophthalmitis, double perforating and multiple pellets injuries may require enucleation in 41.5% of the victims[9,10]. In our case, enucleation of both the globes was done along with removal of pellets.

CONCLUSION

Bilateral pellet injury in both orbits at identical sites is a rare occurrence. Management is along standard lines as for penetrating ocular injury.

REFERENCES

1. Bartkowski SB, Kurek M, Stypulkowska J, Krzystkowa KM, Zapala J. Foreign bodies in the orbit. Review of 20 cases. *J Maxillofac Surg* 1984; 12: 97-102.
2. Percival SP.A decade of intraocular foreign bodies. *Br J Ophthalmol* 1972; 56 : 454-61.
3. Brinton GS, Aaberg TM.Changing aspects of management of ocular trauma. *Am J Ophthalmol* 1982; 94: 258-60.
4. Korobelnik JF, Cetinel B, Frau E, Chauvaud D, Pouliquen Y. Ocular lesions caused by pellet guns, Epidemiological Study on 160 patients. *J Fr Ophtalmol* 1993; 16: 453-7.
5. Cowey A, Mitchell P, Gregory J, MacLennan I, Pearson R. A review of 187 gunshot wound admissions to a teaching hospital over a 54 month period: training and service implication. *Ann R Coll Surg Engl* 2004; 86: 104-7.
6. Amin MN, Baret GH, James CF, Hailah MH, Zeynel AK. Penetrating orbital injury with organic foreign bodies. *Ophthalmology* 1999; 106: 523-32.
7. Dermot Roden, Philip Cleary, Peter Eustaca. A five year survey of ocular shotgun injuries in Ireland. *Br J Ophthalmol* 1987; 7: 449-53.
8. Smith D, Wrenn K, Stack LB.The epidemiology and diagnosis of penetrating eye injuries. *Acad Emerg Med* 2002; 9: 209-13.
9. Morris RE, Witherspoon CD, Feist RM, Byrne JB Jr, Ottemiller DE. Bilateral ocular shotgun injury. *Am J Ophthalmol* 1987; 103: 695-700.
10. Micheal Ilsar, Moses Chiramboand, Michael Belkin. Ocular injuries in Malawi. *Br J Opthal* 1982;66:145-48.