ejpmr, 2017,4(12), 71-73

SJIF Impact Factor 4.161

EUROPEAN JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.ejpmr.com

Case Report

ISSN 2394-3211

EJPMR

CASE REPORT: DELAYED PRESENTATION OF INTRAORBITAL FOREIGN BODY (IOFB)

Chinawa N. E.[1] and Odogo V.[2]

[1]University of Uyo Teaching Hospital/Siloam Eye Foundation.
[2]Departrment of Ophthalmology Niger Delta University.

***Corresponding Author: Dr. Chinawa N. E.**

University of Uyo Teaching Hospital/Siloam Eye Foundation.

Article Received on 04/10/2017 **Article Revised on 25/10/2017** **Article Accepted on 15/11/2017**

ABSTRACT

Aim: To establish the role of plain radiograph in establishing a diagnosis of suspected metallic foreign body when the history is vague and more desirable investigation like CT scan are not affordable. **Case Report:** MT was a 40-year-old hunter who had a supposed rebound of bullet pellets into his right infraorbital area when he attempted shooting a wild animal. On presentation, globe remained intact but he had a scar in the infraorbital area with symblepharon in the inferior fornicial area. On palpation, there was a deep-seated object which was firmly adherent in this area. Patient was unable to do CT scan due to financial constraint but plain radiograph revealed an opaque comma shaped object which on surgical removal was confirmed bullet. **Discussion:** IOFB are commonly encountered in ophthalmic clinical practice. It is common among males between the ages of 25-39 years. There are cases where the presence of a foreign body may be difficult to guess, based on history or clinical examination. These cases would require imaging like Computerized tomography (CT). However due to financial constraint, many patients may be unable to do a CT scan. Cheaper imaging technique like plain radiograph (X-ray) which could give a relatively reliable result would have to be relied upon in such cases. **Conclusion:** Plain radiograph can play an invaluable role in establishing suspected metallic intraorbital foreign body especially when the history is vague and more sophisticated investigations are not affordable.

INTRODUCTION

Intraorbital foreign bodies are frequently encountered in clinical practice.[1–2] Although the consequences from the presence of a foreign body within the orbit may be serious, sometimes their effects in the orbital and ocular tissues are much less severe than expected and depend on the location, size, chemical composition and associated damage to surrounding structures.[1–2] The risk of ocular penetration by high velocity foreign bodies is well recognized and a legitimate cause of concern. Intraocular foreign bodies (IOFBs) may be missed only to present later with complications such as endophthalmitis, retinal detachment.[1]

High velocity, relatively small particles are the most common foreign bodies found in the eye. Hammering, grinding, or shaving metal, machine yard work such as lawn mowing, and explosives exposure are particularly high risk.[3,4]

Patients with IOFBs are overwhelmingly male (>90%) and young. Mean age at presentation is 25 to 39 years.[5,6] Often history referring to the nature and mechanism of injury may be enough to suggest the presence of a foreign body in the periocular tissues[7,8] However, there are cases where the presence of a foreign body may be difficult to guess, based on history or clinical examination[7,8]

Imaging modalities become critical in the diagnosis, confirmation, and localization of such IOFBs. Computerized tomography (CT) has become the predominant imaging technique in the setting of ocular trauma. It was performed in 43% to 100% of patients in published IOFB series and is a standard component of open globe injury protocols at many institutions.[4,9] However due to financial constraint, many patients may be unable to do a CT scan. This means that other cheaper imaging technique like plain radiograph(X-ray) which could give a relatively reliable result could be considered.

IOFBs generally need to be removed because of the risk for endophthalmitis (3%–30% of IOFBs) and toxicity.[4]

CASE REPORT

MT is a 40-year-old hunter who presented with feeling of foreign body sensation in the infraorbital region of right eye. Patient also complained of mild pain in same area. Symptom was sequel to supposed rebound of bullet pellet when patient attempted shooting a wild animal in one of his hunting exercise. There was bleeding at the

time of the incident but wound healed with a scar following application of local herbs.

On examination, there was a scar at the infraorbital region of the eye. However, the globe was intact. Conjunctiva was injected with symblepharon formation inferiorly while cornea was clear. Anterior chamber had good depth with no activity. Lens and vitreous were clear. The fundus was norman with vertical cup disc ratio of 0.2 and good foveal reflex.

Gentle palpation of the scar indicated a deep-seated object in the infraorbital region. Ocular motility was sub-optimal in the horizontal gaze because of symblepharon formation.

Plain radiograph done revealed an opaque comma shaped mass in the infraorbital region as shown in fig 1a-b.Patient did not do CT scan. An assessment of intraorbital foreign body secondary to? bullet pellets.

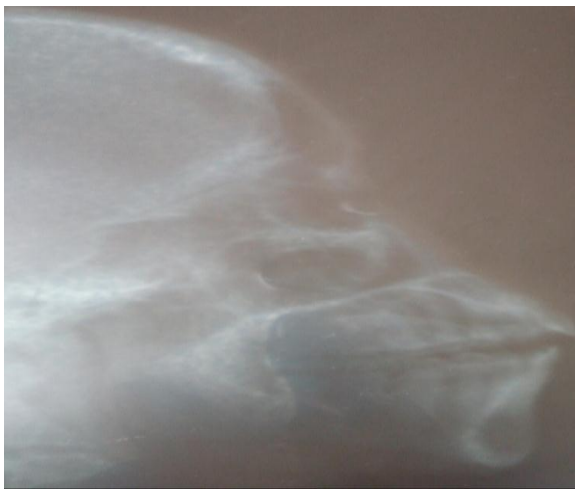

Fig: 1a is a lateral view plain radiograph showing a radiopaque comma-shaped mass in infraorbital area of right eye

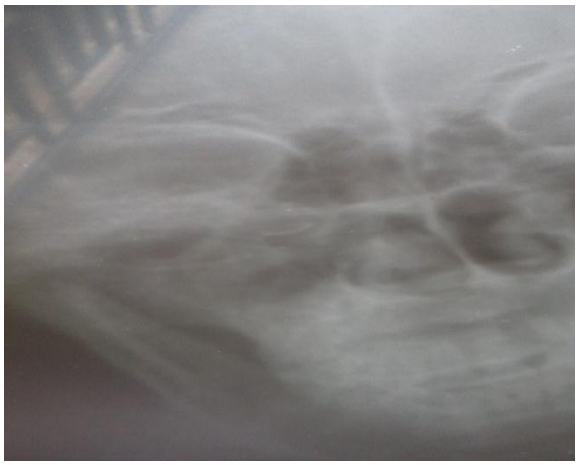

Fig: 1b is an anterior/posterior view of plain radiograph showing a radiopaque comma-shaped mass in infraorbital area of right eye

Patient was admitted and scheduled for exploration of orbital foreign body. A skin incision was made for exploration of the infra orbital region. A Piece of metal confirmed to be a bullet by patient was removed as shown in fig 2a-b.

Fig: 2a shows attempt at removing the pellet.

Fig: 2b shows removed pellet (or its encasement).

Post op follow up was satisfactory with significant reduction of Foreign body sensation. Patient was unable to do either post-op CT scan or plain radiograph because of financial constraint.

DISCUSSION

Intraorbital foreign bodies are frequently encountered in clinical practice.[1,2] Patients with IOFBs are overwhelmingly male (<90%) and young as in our patient. Mean age at presentation is 25 to 39 years.[5,6] This is close to our patient's age who was 40 years. This is because most males at this age are involved in outdoor activities which exposes them to trauma with attendant IOFB. Some of these outdoor activities include hammering, grinding, or shaving metal, machine yard

work such as lawn mowing, and explosives exposure which are particularly at high risk.[4,5] High velocity, relatively small particles are the most common foreign bodies found in the eye. This is the case with our patient who was hit by supposed rebound bullet. The high velocity nature enhances easy ocular or periocular penetration.

The complications of IOFB depend on the location, size, chemical composition and associated damage to surrounding structures.[1,2] Some of the possible complications include endophthalmitis, retinal detachment.[2] There was no sign of infection in our patient probably due to the inert nature of the pellet and furthermore, the high velocity nature of injury may have generated enough energy and heat with attendant sterilizing effect at the point and time of entry.

There are cases where the presence of a foreign body may be difficult to guess, based on history or clinical examination.[7,8] In our patient, the history was not quite convincing as there could not have been a rebound from the animal body since it was the sole target at the time of shooting; however, palpation suggested the presence of an object in the infra orbital region

Imaging modalities became critical in the diagnosis, confirmation, and localization of IOFBs in this case especially when history is not convincing. Computerized tomography (CT) has become the predominant imaging technique in the setting of ocular trauma. It was performed in 43% to 100% of patients in published IOFB series and is a standard component of open globe injury protocols at many institutions.[4,9] However due to financial constraint, many patients may be unable to do a CT scan as in our patient. We thus had to rely on cheaper imaging technique like plain radiograph(X-ray) which could give a relatively reliable result. The detection of foreign bodies (FBs) by conventional radiology is dependent on their relative density compared to water.[10] Consequently though X-rays will often reveal metallic FBs, the detection of glass, perspex and wood is much less reliable.[11] A recent study[2] reported an IOFB detection rate by plain X-rays of 69% for metallic materials, 77% for glass but only 0-15% for perspex, wood and graphite.

Owing to the high risk of complication associated with IOFB, we strove to remove the foreign body as soon as patient presented. Although there was low risk of infection owing to the nature of the foreign body but since we did not know the type of metal, we were still careful of the possible risk of siderosis which is higher with prolonged retention.

It was vital for our patient to do a post op Ct scan, ocular ultrasound scan or at least plain radiograph to rule out Some potentially life-threatening or vision-threatening consequences of retained intraorbital foreign bodies, such as pneumocephalus and presumed meningitis[12] optic nerve trauma and associated vision loss[13] but due to financial constraint, he was unable.

REFERENCES

1. Duke Elder S: System of Ophthalmology. St Louis, CV Mosby Co., 1972; 14: 508-543, 560-564.
2. Bryden FM, Pyott AA. Bailey M, McGhee CNJ: Real time ultrasound in the assessment of intraocular foreign body. Eye, 1990; 4: 727-73l.
3. Yeh S, Colyer MH, Weichel ED. Current trends in the management of intraocular foreign bodies. Curr Opin Ophthalmol, 2008; 19: 225-33.
4. Parke DW, Pathengay A, Flynn HW, et al. Risk factors forendophthalmitis and retinal detachment with retained intraocular foreign bodies. J Ophthalmol, 2012; 758526.
5. Greven CM, Engelbrecht NE, Slusher MM, et al. Intraocular foreign bodies: management, prognostic factors, and visual outcomes. Ophthalmology, 2000; 107: 608-12.
6. Williams DF, Mieler WF, Abrams GW, et al. Results and prognosticfactors in penetrating ocular injuries with retained intraocular foreign bodies. Ophthalmology, 1988; 95: 911-6.
7. Fulcher tp, Mcnab aa, sullivan tJ. clinical features and management of intraorbital foreign bodies. Ophthalmology, 2002; 109: 494–500.
8. Michon J, liu D. intraorbital foreign bodies. semin ophthalmol, 1994; 9: 193–199.
9. Wu JT, Lam DS, Fan DS, et al. Intravitreal phaco chopper fragmentmissed by computed tomography. Br J Ophthalmol, 1998; 82: 460-1.
10. De Lacey G, Evans R, Sandin B: Penetrating injuries: how easy is it to see glass (and plastic) on radiographs? Br J Radial, 1985; 58: 27-30.
11. Bray LC , Griffiths PG. The Value of Plain Radiography in Suspected Intraocular Foreign Body. Eye, 1991; 5: 751-754.
12. Detorakis et, Drositis i, Drakonaki e, panagiotaki e, Deville J. pneumocephalus and presumed Meningitis Following incospicuous penetrating periocular trauma. acta ophthalmol scand, 2004; 82: 603–605.
13. Mukherjee B, goel s, subramanian n. an unusual case of intraorbital foreign body and its management. indian J ophthalmol, 2011; 59: 58–60.