

**A SINO-ORBITAL SCISSORS FOREIGN BODY**

CO BEKIBELE MBBS, FWACS, FMCO.\*

AOA OGUNLEYE MBBS, FMCORL, FWACS. \*\*

A O ASHAYE MBBS, MSc, FWACS, FMCO.\*

AM BAIYEROJU MBBS, FWACS FRCS.\*

O FASINA MBBS FWACS.\*

MB SANDABE\*\*MBBS

AA ALUKO\*\*MBBS

\*Department of Ophthalmology

\*\*Department of Otorhinolaryngology, University College Hospital and College of Medicine, University of Ibadan, Ibadan. Nigeria

**SUMMARY**

The case of a sino orbital foreign body from the broken tips of a pair of scissors transversing the floor of the left orbit, left maxillary sinus and left nasal cavity, and which had been left in place for two years because of financial constrains, before its surgical removal without much sequel, is presented. The need for adequate radiological investigations in all cases of head and neck trauma as well as the institution of health insurance in developing / low income economies to cater for indigent patients especially in emergency situations is highlighted.

**INTRODUCTION**

Trauma to the maxillofacial region is usually associated with varying degrees of disruption of the soft and hard tissues in the region and the involvement of neighbouring structures such as the eyes, the brain, nasal apparatus and the para nasal sinuses.<sup>1</sup> The involvement of the orbit by penetrating trauma may be associated with the presence of foreign bodies in which long retention leads to damages such as visual loss or cerebral abscess from infection, vessel erosion or interference with ocular function.<sup>2,4</sup>

**Radioopaque**

foreign bodies such as those of metal origin may easily be localized by orbital radiographs but radiolucent foreign bodies such as wood may be missed, except with the aid of computerized tomography (CT), which is superior to plane radiograph and has been recommended for all suspect cases.<sup>3,4</sup> In the absence of computerized tomography, ultrasound scan may be useful for localization of radiolucent foreign bodies, which may be missed by plain radiograph.<sup>5</sup> The need for imaging study is particularly important when the associated facial and ocular wounds are minor despite a suggestive history so as to prevent misdiagnosis. Orbital foreign bodies are not uncommon, but sino-orbital foreign bodies are rare.<sup>6</sup> We report a case of retained sino-orbital foreign body from the broken tip of a pair of scissors that presented with recurrent peri-orbital infection and chronic sinusitis and had been left in place for 2 years before its final surgical removal due mostly to financial constraint which prevented its prompt localization and removal.

© *European Journal of Scientific Research*, Vol 7, No 4, 2005**CASE PRESENTATION**

O.M a 22-year old Nigerian male secondary school leaver, was first seen at the eye clinic of the University College Hospital, Ibadan in July 2002 with two weeks history of discharge, redness and a fleshy growth in the left eye. He had sustained an injury to same

eye about one month prior to presentation when he was struck in the left orbit with a pair of scissors while playing with a friend. There was visual impairment and bleeding then, associated with upper lid laceration which had been sutured and some medications also administered at a private hospital. Systemic review revealed no abnormality. Systemic examination was essentially normal.

Ear Nose and Throat examination revealed depressed nasal bridge with flattening of the dorsum, with presence of profuse muco-purulent discharge in the left nasal cavity only. Ocular examination revealed that the vision in the left eye then was 6/18 and there was a healed scar on the upper lid with ptosis. He also had eye discharge, chemosis and a fleshy growth in the infero lateral aspect of the orbit with restriction of the ocular muscle movements laterally. The right eye was essentially normal. He was treated with topical antibiotics and steroids. The discharge reduced but did not stop and he was placed on systematic antibiotics. An impression of bacterial conjunctivitis with a pyogenic granuloma was made after the conjunctival swab culture revealed staphylococcus aureus. Ocular ultrasound done, showed a left lateral wall mass. He however defaulted before any further intervention could be carried out. He represented about 1yr later with a history of recurrent discharge, pain and reduced vision in the same left eye. Vision had dropped to 6/36 in the left eye other findings were still the same with mechanical ptosis, discharge, chemosis and the fleshy growth in the infero lateral aspect of the left eye and restricted lateral gaze. The nasal examination findings were as before. He was treated with systemic and topical antibiotics and a plain radiograph of the paranasal sinuses was ordered which showed a radio opaque foreign body pointing infero medially and posteriorly from the lateral aspect of the left orbital floor. It entered the left maxillary sinus, passed through its medial wall and entered the left nasal cavity where it stopped (Figure 1). There was associated opacity of the left maxillary sinus suggestive of chronic maxillary sinusitis from the foreign body. A diagnosis of left sino-orbital foreign with left maxillary sinusitis was made. He was subsequently scheduled for exploration and extraction of the foreign body as a joint procedure by ophthalmology and otorhinolaryngology (ORL) teams. He however defaulted again to re-present 9 months later with features of peri-ocular infection. He was finally admitted, treated with parenteral antibiotics, and he subsequently had orbital exploration with removal of the retained foreign body 2 years after initial presentation. At surgery, under general anaesthesia the foreign body (the rusty broken tips of a pair of scissors measuring 55 x 8 x 3 mm) was removed through a trans cutaneous incision below the left lower eyelid to expose the foreign body transversing the orbital floor (Figure 2). The fleshy tissue in the inferior conjunctiva fornix was excised and the defect repaired. The patient also had a left intra-nasal antrostomy during the joint procedure for the maxillary sinusitis that had accompanied the foreign body. He improved well post operatively and his vision improved to 6/12 in the left eye with plano/ - 1.75DC x 70. Fundoscopy post operatively

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revealed a pale cupped optic disc with a cup-disc ratio of 0.6, the macula was however normal. He was finally discharged to outpatient's 2 weeks post operatively.

## **DISCUSSION**

Foreign bodies in the orbit may be the ends of objects forced into the orbit and broken off and thus retained, or flying particles with enough energy to penetrate nearly to the apex of the orbit where they are stopped by bone. In either case due to the protective effect of

the bony orbital wall, foreign bodies enter the orbit from the anterior aspect, passing through the lids and conjunctiva.<sup>7</sup>

The diagnosis of orbital foreign body may be rendered more difficult if the entry wound is not easily seen in the recesses of the conjunctiva or eyelid skin.<sup>8</sup> This was the situation in this case where the entry wound was hidden in the inferior fornix and was covered by reactive granulation tissue, and was initially misdiagnosed as pyogenic granuloma. The history of accident involving foreign body may be missed because the patient may have considered it a trivial accident or it may have escaped the patients' notice.<sup>9</sup> Thus in this situation the entry wound was missed and a laceration in the upper lid had been sutured at the private hospital where he had presented at time of injury a month earlier.

The general tendency is for the foreign body to slip past the globe and bury themselves deeply in the orbit with the eye frequently escaping direct injury.<sup>7</sup> This was the situation in the patient presented. Gross injury to the globe is in most cases reserved for missiles travelling at high velocities such as those associated with gunshot injuries.<sup>7</sup> Occasionally a sharp thin foreign body such as knitting needle, knife, piece of steel or wood may transverse the globe or orbit to the recesses of the orbit, for example into the cranium, para nasal sinuses or the nasal cavity. Entry into the cranium may be complicated by meningitis/cerebral abscess with a fatal consequence, while nasal and para nasal sinus involvement may be associated with an increased tendency towards infection.<sup>4,6</sup> this was the case in this patient.

Foreign bodies in the orbit cause damage more by the injuries they inflict on the many important structures crowded in the orbit during passage than by their physical presence except through the infection they introduce. <sup>12</sup> Thus, the above patient presented with repeated periocular soft tissue infection with minimal ocular damage. Recurrent infection and orbital oedema was probably associated with optic nerve compression with the resultant optic nerve atrophy and corrected visual acuity of 6/12 only.

The orbit may retain foreign bodies for long periods with out much effect. This is illustrated in a case of retained orbital foreign body reported by Maluf et al from Beirut<sup>10</sup> in a 27 year old man following a blast injury, the patient had initially refused surgery until 5 years later when he re-presented on account of recurrent attacks of swelling, redness and pain over the foreign body in the right medial canthus, the presence of the foreign body and an orbital osteoma was confirmed by CT and removal after a course of antibiotics left no sequels. Most metal foreign bodies excluding copper are inert in the orbit in the absence of infection and cause no disturbance apart from their bulk.<sup>7</sup> Organic foreign bodies such as wood on the other hand tend to excite a granulomatous inflammatory reaction, and the presence of a chronic infection may result in the

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formation of a fistula.<sup>11</sup> The foreign bodies retained in the orbit are varied and include small particles of metal from engineering workshops, war injuries, knife blade used in assault, arrow, missiles from toy guns have all been reported. <sup>7</sup> The presence of the broken ends of a scissors, transversing the orbit and maxillary sinus as in this report is however uncommon as shown by lack of reports in the literature. Insufficient history from the patient coupled with financial constraint, which precluded prompt and adequate investigations which would have included computerised tomography caused delay in the specific treatment. Even when ultrasound and later X ray reported the presence of a foreign body in the orbit, the lack of funds did not allow prompt exploration and removal,

thus the patient first defaulted for one year and again for nine months until he was forced to represent by recurrent periocular infection. The above exemplifies the need for adequate radio diagnostic investigations in all cases of orbital and head and neck trauma, there is also the need for institution of health insurance in developing / low income economies to cater for indigent patients who are unable to pay the cost of health service especially in emergency situations.

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Figure 1: Radiograph of retained left sino-orbital scissors foreign body

Figure 2: broken tips of a pair of scissor extracted from left orbit and maxillary sinus

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