

### Bilateral Pneumoblepharon/palpebral Emphysema In Nigeria- A Case Report

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#### Abstract

**Background:** Bilateral pneumoblepharon or palpebral emphysema is an unusual presentation of tuberculosis which is a fairly common disease condition.

**Method:** The case record of a four year old Nigerian female presenting with bilateral pneumoblepharon secondary to tuberculosis with a review of literature on the subject is presented.

**Result:** Palpebral emphysema is one of the ocular complications of tuberculosis, which is not commonly reported in our environment.

**Conclusion:** There is a need for the ophthalmologist to be more aware of the ocular complications of tuberculosis such as palpebral emphysema, in order to avoid misdiagnosis and to ensure proper treatment of this condition.

**Key words:** pneumoblepharon, tuberculosis, orbital cellulitis.

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#### Introduction

It is very rare to see a case of tuberculosis presenting in an eye clinic with pneumoblepharon or palpebral emphysema and so when one is seen in clinical practice, it is worth reporting. Tuberculosis is mainly a respiratory condition which is the second leading cause of death worldwide, killing up to 2 million /year<sup>1</sup>. About a third of the world population is infected with tuberculosis, however only 10% progress to disease state.<sup>2</sup> Incidence has increased recently as a result of the burden of Human immunodeficiency virus (HIV) pandemic. This was also confirmed by workers in Nigeria who have documented a progressive yearly increase in the number of cases with this condition with more children being diagnosed<sup>3</sup>. When it affects the tissues of the eye it can easily mimic features of orbital cellulitis<sup>4</sup> which has been shown to be the cause of proptosis in 52% of cases<sup>5</sup>. This is an important differential as orbital cellulitis is not uncommon in children<sup>6,7</sup>. Ocular tuberculosis may represent a diagnostic challenge in the absence of pulmonary or disseminated tuberculosis and is still a diagnosis of exclusion<sup>8</sup>. To ensure a misdiagnosis is not made when a similar case presents, this case report is presented to further bring to mind the myriad etiology of pathologies in the ocular adnexae.

#### Case report

**Miss F. E.**, a 4 year old, presented on 12/5/04 in the eye clinic of the General Hospital, Okolobiri, Bayelsa State. She has been ill for about 2 months and had been diagnosed to have tuberculosis at another hospital. A few weeks before presentation she was noticed to have difficulty in breathing and had some swellings on her arms and chest which made crinkly sounds when touched. A few days before presentation, she developed large painful swellings on both eye lids which completely occluded the left eye. There was associated, moderate mucopurulent discharge (see picture).

Topical antibiotics (name not known) were used but there was no response. There was history of intermittent fever with night sweats and irregular use of anti tuberculous medication.

She had not been able to start school due to her ill health. She is the second child out of three, the others being six and two respectively and in good health. Her father is a civil servant while her mother is a housewife. Systemic review showed that she was losing weight and was anorexic.

On examination, patient was a malnourished, chronically ill looking, dark skinned girl, who was moderately pale, but not jaundiced nor cyanosed and she had non tender swellings all over on the cheeks, arms, chest and the abdomen which make sounds similar to crepitus on palpation.

Ocular examination showed that the child followed light adequately with the right eye that was open. Both eyelids were markedly swollen, tender, and warm to touch with dilated blood vessels. The left eyelids were more swollen than the right. The eyelids could not be retracted and thus the eyeball could not be visualized in the left. Extraocular movements were full on the right and there was no proptosis.

An assessment of right preseptal cellulitis and left orbital cellulitis with an abscess was made. An incision and drainage (I&D) of the abscess in the left eyelid was done but only gas escaped.

The lid swellings resolved immediately and the eyeball became visible. A new assessment of subcutaneous emphysema with bilateral palpebral emphysema secondary to tuberculosis was made.

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The patient was discharged home immediately to continue outpatient treatment of the tuberculous condition. She was subsequently lost to follow-up.

### Discussion

The above condition is a relatively rare one and to the best of our knowledge has not yet been reported in our locality. Normal pockets of air under the lids have been described in literature following detection with computerized tomographic scan<sup>9</sup>. No paper has actually reported gas within the lids.

A Case report of orbito palpebral emphysema following compressed air injury was reported over twenty years ago<sup>10</sup>. However there was no history of trauma in this patient. Orbital tumours have been reported to masquerade as panophthalmitis complicated with orbital cellulitis which may manifest with associated lid swelling<sup>11</sup>. Lymphomas have also been known to present extranodally in the eye with features similar to preseptal cellulitis<sup>4,12</sup>.

Infections in the sinuses (rhino sinusitis) particularly in children, commonly present with complications in the eye with incidence of up to 8.9 cases per year of orbital cellulitis<sup>13,14</sup> from the experience in Senegal. Though from the experience in Morocco, orbital cellulitis is relatively rare<sup>15</sup>.

This patient has been on treatment for tuberculosis for some time. Tuberculous infection around the eye (the zygoma) also can present with features suggestive of orbital cellulitis<sup>16</sup>. Underlying systemic tuberculosis can also present with preseptal cellulitis particularly in children and as preseptal cellulitis is commoner in childhood<sup>17, 18</sup>, one may make a wrong diagnosis and institute wrong treatment. Occasionally even after surgical intervention for chalazion a case of preseptal cellulitis caused by *Mycobacterium intracellulare* has been reported, in a 56 year old<sup>19</sup>. Tuberculosis of the conjunctiva and lids has been reported in a 75 year old which actually resulted in exenteration of the eye<sup>20</sup>.

Ocular tuberculosis is an uncommon finding, particularly in children<sup>21</sup>. Features are seen in the conjunctiva and cornea. Most ocular manifestations are as a result of miliary spread. These include conjunctivitis, interstitial keratitis, scleritis and anterior uveitis, chorioretinitis and optic neuritis<sup>4, 21, 22, 23</sup>. In this patient no such spread occurred, rather ruptured cavitations in the lung probably led to a pneumomediastinum and subsequent spread along the tissue planes to the subcutaneous layer of the eyelids and maxillary regions of the face<sup>24</sup> which now accounted for such a bizarre presentation.

### Conclusion

This case has been reviewed in literature and to the best of our knowledge; a similar case has not been reported in recent times. This emphasizes the fact that tuberculosis is a disease condition with multiple and varied presentations.

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