

## ACUTE BACTERAL CONJUNCTIVITIS

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## ABSTRACT

Miss ogechi aged 26years presented with fiery red eyes of 5 and 3 days duration for the left and right eyes respectively. Differential diagnosis suggested acute bacterial conjunctivitis with secondary subepithelial keratitis. Laboratory analysis confirmed an etiology of strains of staphylococcus aureus. A muliti- therapy of tropical bacterial fluorinate quinonoe and bacteriostatic chloromycetin combined with systemic bacteriostatic co-trimoxazole controlled the infection within 3 days with complete resolution occurring about a week after.

**KEYWORDS:** Miss ogechi subepithelial chloromycetin quinonoe trimoxazole week after.

## INTRODUCTION

Conjunctivitis is an inflammation of the conjunctiva characterized by cellular infiltration and exudation (Newell F; 1982). Classification is unsatisfactory but often times, it is based on (i) cause- this could be bacterial, viral, fungal, allergic, chemical, mechanical or toxic. (ii) Age group of occurrence- this may be neonatal, childhood or adulthood. (iii) type of Exudates- whether purulent, muco-purulent, membranous, pseudo-membranous or catarrhal. (iv) clinical course –wether acute, sub-acute or chronic. Sometime, there may be an associated corneal inflammation and this is referred to as kerato-conjunctivitis (Newell F., 1982; Tabbara K., Hyndiuk R., 1996).

This report presents a typical case of bilateral acute bacterial conjunctivitis, the differential diagnosis, suspected etiology and treatment option. Ogechi, age 26years, female, single and a fashion designer by profession, is a native of Amakohia in Owerri North Local Government area of Imo State. Looking distressed and worried, she presented with fiery red (pink) eyes, swollen eyelids mattered with heavy discharges which were repeatedly wiped off with handkerchief on Tuesday, 12<sup>th</sup> April, 2005 in the clinic. it started suddenly in the left eye spreading to the Right eye 2-days after. The total duration of onset from day of first infection in left eye to day of presentation in the clinic was 5-days.

Her complaint included severe foreign body sensation, soreness, itching/irritations, morning mattering of lids with difficulty in opening the eyes, transient blurring of vision and seeing of colored halos. She also presented mild photophobia especially in the left eye. Ogechi's medical history was unremarkable. she had no previous

history of any eye problems of any type before now. She had never fallen sick within the past 16-years even from the common malarial. Beside, she hates taking drug. following the involvement of the right eye 2-days after, she got alarmed and sort help, first from neighbor who prescribed sugar solution. This worsed her condition affecting her work both in the house and as a fashion designer. This prompted her seeking proper medical attention.

## EXAMINATION RESULTS

## (a) Visual Acuity

Unaided Distance Visual Acuity

O.D. 6/9+2 O.S. 6/9

Unaided Near Visual Acuity

O.D. N8 O.S. N8

## (b) External / internal Examination Results

## 1. With pen-torch / Slit Lamp Biomicroscope

Marked lid edema with dirty yellow crusts at the lid margins, marked conjunctival hy peremia/ chemosis, copious amount of mucopurulent discharges, intact cornea expcept for some white infiltrates at the limbus, clear aqueous, pattern with good papillary light reaction and clear crystalline lens.

## 2. With the Ophthalmoscope

Vitreous, retina/macular and optic disc Normal

## (c) Laboratory Result (Gram Stain and culture)

Staphhylococcus Aureus+++ O.U.

## CASE ANALYSIS

Conjunctivitis is one of the causes of fiery red eye. Other causes being the inflammation of the inner eye referred to as acute iritis; the congested, tense eyeball arising from the blockage of aqueous outflow referred to as

acute glaucoma; plus a fourth cause that is sometimes considered, referred to as acute keratitis (Trevor-Roper P., 1976; Sowka J., Gurwood A kabat A., 2000).

Conjunctivitis can present in various forms, bacterial viral fungal, chemical, mechanical, toxic or allergic. The acute nature of Ogechi's presentation required the quick consideration of some of these possible causes of fiery red eye; the dividing line being a difficult but very important adequate differential diagnosis and treatment options.

Slit Lamp biomicroscopy played a very critical role in arriving at an early diagnosis. Its result revealed a clear, intact cornea, not steamy or misty except for slight corneo-scleral (Limbal) infiltrates especially in the left eye. It also revealed pus debris floating across the corneae as the patient was advised to blink repeatedly. The iris were not 'muddy' but had their normal, quiet, distinct pattern with normal pupillary light reaction. The aqueous and crystalline lenses were clear. The conjunctival injections were found to be diffused and edematous (chemosis) with copious exudates floating all over; there were also certain degree of papillary hypertrophy. The eyelids were markedly swollen (edema).

On the hand, ophthalmoscopy revealed clear media, normal retinae/maculae and optic discs. The absence of frank pain and frank photophobia added to the slit lamp examination result, eliminated the suspicion of acute iritis and/or acute glaucoma. The complaint of slight discomfort under the sun may be attributed to the whitish corneo-scleral infiltrates (subepithelial keratitis), observed with the slit lamp especially in the left eye with longer duration of infection. The flakes and mucus being repeatedly swept across the corneae as the eyes blink may have responsible for the colored halos seen by Miss Ogechi, due to their prismatic action (Miller S., 1996). This is unlike those seen in acute glaucoma which are caused by the accumulation of fluid in the corneal epithelium which leads to the alteration in the refractive case of acute glaucoma are seen as colored rings around lights and are therefore usually observed after dark (Miller S., 1996).

Again, the iris is richly supplied with sensory nerves from the ophthalmic division of the 5<sup>th</sup> nerve. The absence of neuralgic pain which is typical worse at night and may extend to the other branches of the nerve especially to the forehead and scalp, to the cheeks and malar bones, further eliminates the presence of iritis (Miller S., 1996). Furthermore, any secondary conjunctivitis arising from iritis show relative discharge which is never muco-purulent as observed in this case. The absence of preauricular adenopathy, subconjunctival haemorrhages and pseudo-membranes ruled out (adeno/picornA) viral conjunctivitis (Vaughan D., Asbury T., 1974; Kanski J., 1997; Quinn C., 2002) These clinical findings were further collaborated by the results

of the laboratory Analysis. The gram stain revealed staphylococcus aureus stain. staphylococcus aureus are gram-positive, toxin-producing, non-motile organisms that occur in grape-like clusters.

## MANAGEMENT

Acute bacterial conjunctivitis as presented by Ogechi should be considered an ocular emergency. This is to prevent any serious corneal involvement that may become sight threatening. As stated earlier, slit lamp biomicroscopy revealed marginal keratitis characterized by white infiltrates at the limbus. If not treated effectively, they have a tendency to spread circumferentially.

Thus, both eyes were immediately and thoroughly irrigated with normal saline and all the crusts on the lid margins cleaned off. Aggressive topical antibiotic therapy using one of the fluorinated quinolones, ciprofloxacin specifically, was instituted at 2-hourly intervals for the first day and 3-hourly thereafter. The antibiotic ointment, chloromycetin, was recommended for bedtime application. This is to prevent discharges from being retained, the eyelids sticking together and obviating pains on opening the eyes. The systemic antibiotic, co-trimoxazole 960mg bid x 1/52, was also prescribed and Ogechi advised to report in 3-days time for review.

Her condition recorded a dramatic improvement and was consequently advised to continue with same therapy and dosage and report 4-days after for another review. On this day, the subepithelial keratitis, the colored halos and discharges had all disappeared. The conjunctiva and eyelids were all returning to their normal conditions. The topical antibiotics dosage was now reduced to 4-times daily and Ogechi advised to resume her job as her condition was no longer considered contagious and report again after one week for another review. Her presentation on this last appointment day was very satisfactory.

Due to the high rate of past empirical successes recorded with fluoroquinolones, it was the topical drug of first choice even without any laboratory culture result. The increased dosing raises tissue concentration, thereby heightening the clinical outcome by quelling the infection rapidly. Fluoroquinolones also show excellent bioavailability and significant improved penetration. They work by inhibiting bacterial DNA gyrase. This in turn, limits the replication of bacteria to its supercoiled state (Colgain J., Oliver G., 2002 Epstein A., 2003). These qualities, in combination with the other instituted therapies, may have been responsible for the rapid positive response of Miss Ogechi's eyes to treatment.

## CONCLUSION

Acute bacterial conjunctivitis, such as this one, should be considered an ocular emergency. This is to avoid the serious consequences that include very serious sight threatening conditions arising from the involvement of

the cornea. Treatment consists, primarily, in the adequate differential diagnosis and control of the infections by appropriate drugs. Even in the absence of laboratory analysis. Treatment should be instituted immediately while waiting for the stained smears and culture results. The use of the combined therapy of the bacteriocidal fluorinated quinolone, ciprofloxacin and the bacteriostatic chloramphenicol and co-trimoxazole, provide very effective and a very good treatment option in the management of this case of acute bacterial conjunctivitis.

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