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Chlamydial Conjunctivitis - Case Series

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Abstract

Chlamydia trachomatis is infectious cause of eye and genital disease. Chlamydial conjunctivitis is most common cause of follicular conjunctivitis. Authors observed conjunctivitis in newborn, during labor of infected birth canal (conjunctivitis inclusoria neonatorum); pool conjunctivitis in man with urethritis (conjunctivitis inclusoria adultorum - Reiter's syndrome) and women with the pseudophakia - iatrogenic infection.Patients presented - hemosis, hyperemia, exsudation and corneal problems. Giemsa staining of conjunctival scrapings revealed cytoplasmic inclusion bodies. Conjunctival smears showed lymphocytes, mononucleares and epithelial cells. Chlamydial conjunctivitis was diagnostic by immunofluorescence assay. Positive therapeutic effects showed treatment with erithromycin and doxicycline.

Key Words: Chlamydia trachomatis, conjunctivitis, diagnostic, therapy

INTRODUCTION

Chlamydia infection is common sexually transmitted infection in humans by bacterium Chlamydia trachomatis (ocular serotypes - A, B, B a, C). Many women who had chlamydial afection (cervicitis) have no symptoms of infection. In men, chlamydial infection (urethritis) is usually symptomatic. The chlamydial infection can be spread from eye to eye by fingers, shared towels, swimming in pools, by surgical, etc. Chlamydia may cause of reactive arthritis (Reiter's syndrome) with conjunctivitis and urethritis.

Giemsa staining of conjunctival scrapings revealed cytoplasmic inclusion bodies. Conjunctival smears showed neutrophilic polymorphonuclear cells, large epithelial cells, characteristic basophilic cytoplasmic inclusion bodies of' Halberstaelter- Prowazek' and lymphocytes. Conjunctival specimens were subjected to bacterial culture and sensitivity t e s t s , a n d C h l a m y d i a l a n t i g e n - s e t d e t e c t i o n b y immunofluorescence assay).[1]

Current guidelines recommend: erithromycin and tetracycline by therapy!

CASE PRESENTATION

Our patients (newborn, young men, old women) diagnosed with bilateral follicular conjunctivitis by a slit lamp on Clinic of Ophthalmology in Clinical Centre Kragujevac. Our patients presented progressively inflammation, hemosis, hyperemia, papillary hypertrophy, mucopurulent exsudation and corneal problems. The tarsal conjunctiva was inflamed with follicular reaction including the corneal margins superiorly. There were enlarged pre auricular nodes, except in the newborn.

In the newborn, two week after the vaginal part, clinical experts diagnosed neonatal conjunctivitis, figure (case report 1)

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1a. By anamnesis, we didn't get information of any infection during pregnancy. By anamnesis of 25 year old men we got information of syndrome and resistant urinary infection (swimming in public pools) during a few mounts, figure (case report 2) 1b.By anamnesis, from old lady, we learnt of bilateral pseudophakia and resistant conjunctivitis for topical antimicrobial drugs, figure (case report 3)1c.

Chlamydia trachomatis was isolated from newborn, young men (Reiter's syndrome) and old women, all in time of five days. Conjunctival specimens were collected from patients with sterile cotton tipped swabs for C. trachomatis; antigen detection assay and bacterial culture with antibiotics sensitivity testing. The antimicrobial susceptibility of isolated bacteria tested against anti substance on specific medium by disc - diffusion method (1). Giemsa staining of conjunctival scrapings revealed cytoplasmic inclusion bodies. Conjunctival scarping showed a few lymphocytes, mononucleares and occasional epithelial cells.

Direct immunofluorescence test for Chlamydia antigen detection - was using C. trachomatis in direct specimen test kit. The smears were covered with 30 ml of the FITC conjugated C trachomatis - murine - monoclonal antibodies and incubated for 15 minutes at room temperature. The slides observed under 100 X objective of the fluorescent microscope [1].

Regime of the chlamydial treatment and prophylaxis in newborn was topical application with artificial solutions of erithromycin (three times per day, for two weeks). Regime of the systemic therapy (newborn) was 20 mg/kg of body weight/24 h (divided two doses, for two weeks).

Regime of topical treatment in adults was ung. Tetracycline, 1% (three times per day, for two weeks), and systemic therapy of eriromycin 500 mg/6h (per os or parenteral), or doxicycline 100mg/24 h (per os), for two weeks.

The symptoms completely resolved following administration of eritromycin and tetracycline. There were no complications in our cases.

DISCUSSION

Chlamydia trachomatis is infectious agent causing chronic conjunctivitis and divided into 15 serotypes. . Chlamydia trachomatis - serotypes A, B, B a, C, which are endemic in countries, also leading infectious cause of blindness in the world.

C. trachomatis serotypes D-K - cause adult or neonatal inclusion conjunctivitis and the major causes of sexually transmitted diseases.[1]

C. trachomatis is obligate intracellular Gram negative bacterium, that cause wide variety of diseases and constitutes considerable public health problem in hyper endemic community.

The incubation period is 6 - 21 days. Conjunctivitis due to chlamydia typically occurs one week after birth, compared with chemical causes (hours) or gonorrhea (2–4 days).

C. trachomatis, N. gonorrhoea, and Staphyloccocus pyogenes, three well described agents associated with ophthalmia neonatorum, are known to be associated with eye/systemic complications and visual loss. In some infants with Chlamydia associated conjunctivitis, infection persists for a longer period with pannus formation and scarring, and develops pharyngitis, pneumonia, etc.[2]

Chlamydia lives in eye, urethra, vagina, cervix, endometrium, anus and throat. Contact with any of tissues confers risk for spreading the chlamydial infection.

Self infection is a common problem, when someone touches infected genitals and touches eye before washing hands. As C. trachomatis is contact transmitted, any infected family member might have been the source of re infection, if they weren't treated.[3]

Conjunctival specimens were collected from patients with sterile cotton tipped swabs for C. trachomatis; antigen detection assay and bacterial culture and antibiotic sensitivity testing. The slides were air dried, fixed in methanol for 10 minutes and preserved at - 20°C by direct immunofluorescence assay.[8-10]

In our study, we used specific Chlamy - set-antigen test, because it is rapid, sensitive, and simple method for diagnosis of Chlamydia infection.

With the antibiotics, erithromycin and tetracycline are intracellularly active and exhibits excellent activity against C. trachomatis in vitro.[4,5]

In our clinic, we attempted to treat our patients with topical and systemic erithromycin/doxicycline for about 2-3 weeks, after diagnosis was confirmed positive by the Chlamy - set-antigen tests.

The results of our research suggest that in the treatment of chlamydial conjunctivitis with topical and systemic erithromycin and tetracycline was effective and well tolerated in case series

Factors such as use of antibiotics, education in personal hygiene, and improvements in the environment might have contributed to decrease in disease prevalence in endemic country, but some sporadic cases of chlamydial conjunctivitis are reported.[6,7]

CONCLUSION

Authors observed chlamydial conjunctivitis in newborn, during the labor through infected birth canal (conjunctivitis inclusoria neonatorum); pool conjunctivitis in young man with uretritis (conjunctivitis inclusoria adultorum - Reiter's syndrome) and old women with surgical pseudophakia, as an iatrogenic infection. Different ethiology of chlamydial conjunctivitis were confirmed by diagnostic tests such as immunofluorescence assay.Positive therapeutic effects showed topical and systemic therapy with erithromycin and tetracycline at the tertiary Clinical Centre in Kragujevac of Serbia.

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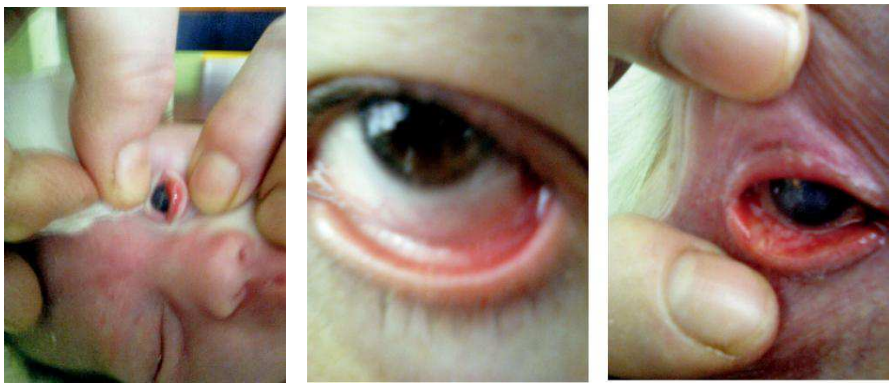

a) Case report 1 **b) Case report 2** **c) Case report 3**

Figure 1.

a) Conjunctivitis inclusoria neonatorum

b) Conjunctivitis inclusoria adultorum

c) Conjunctivtis iatrogenic

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