

Case report

A case of ophthalmic neonatorum with disseminated gonococcal dermatitis and gonorrhoea

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Abstract:

Ophthalmia neonatorum with disseminated gonococcal dermatitis and gonorrhoea is a rare condition. A neonate of 22 days from a poor socioeconomic condition presented with purulent discharge from eye and vagina and eye for last 18 days and skin lesions for 5 days. The baby was born through vaginal delivery. Gram staining of eye and vaginal discharge revealed gram-negative intracellular diplococci visualized microscopically inside polymorph nuclear cells. Neonate was diagnosed as a case of ophthalmia neonatorum with disseminated gonococcal dermatitis and gonorrhoea. Neonate was treated with inj. Ceftriaxone 250mg daily intravenously with antibacterial eye drop. On 2nd day, signs and symptoms disappeared and on 4th day patient was cured.

Key words: Ophthalmia neonatorum, gonorrhoea, disseminated gonococcal dermatitis, HIV.

Introduction

Neisseria gonorrhoea is a gram-negative, aerobic diplococcus. It causes gonorrhoea, one of the commonest and most important sexually transmitted diseases. The incidence in industrialized countries fell after the high levels of World War II, and rose during 'sexual revolution' of the 1960s and 1970s^{1, 2}. The incidence is high among homosexual men. Prostitutes are an important source of the infection, especially, in the developing world². The prevalence of infection may have decreased due to screening programs that have incorporated immediate, on-site, single dose treatment, if needed. Safer sex practices in response to the human immunodeficiency virus (HIV) epidemic may also be contributing factor to the decline of new gonorrhoeal infections. Risk factors for acquisition of new gonococcal infection include new or multiple sex partners, young age, unmarried status, minority ethnicity³, substance abuse, lower socioeconomic and educational levels, and previous infection³. Overall, since the 1980s, prevalence rates among men and women have been similar. The highest rate in women are for those between the ages of 15 and 19 years old and in men between the ages of 20 and 24 years old. The incu-

bation period is 2-5 days (1-14 days). Genital infection affects primarily the urethra in both sexes, but may spread especially in the female to paraurethral glands and cervix, and more deeply (pelvic inflammatory disease) to endometrium, fallopian tubes and peritoneum. Systemic spread may involve the skin. Anorectal and oropharyngeal infections may follow relevant sexual contact. Most cases of childhood, gonorrhoea are sexually transmitted⁴, although accidental inoculation may account for some cases. If a mother has genital infection at the time of delivery, gonococcal ophthalmia may occur in the neonate. In the adult, the conjunctiva may be infected by autoinoculation from the genitalia⁵. Disseminated gonococcal infection, which may include cutaneous lesions, occurs in about 1-3% of cases, and usually involves lesions that are resistant to the killing effect of the host serum, but very sensitive to penicillin⁶. Histologically, the metastatic lesions show hemorrhage, thrombosis and vasculitis⁷. Diplococci may be detectable in the vessel wall and in the surrounding inflammatory infiltrate. Immunofluorescence may identify gonococcal antigen where gram stain & culture are negative⁸⁻¹⁰.

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Case report

A 22 days old baby from locality of Enam Medical College Hospital attended in OPD, Skin & VD with the complains of purulent discharge from eye and vagina for last 18 days and skin lesions distributed over trunk & extremities for last 5 days. The mother of the baby a 24 year's lady delivered the baby through vaginal route. She gave no history of purulent vaginal discharge before or after baby born. Her husband was a rickshaw puller and had history of several sexual exposure. Baby's father had history of purulent urethral discharge about 3 months back and treatment was done by a general practitioner No history of treatment of his partner at that time. Mother noticed purulent discharge from vagina and eye of her baby on 4th day . She brought her to union sub-centre and there baby diagnosed as a case of conjunctivitis. Baby treated with chloramphenicol eye

drop and 1st generation cephalosporin. No improvement observed during the course of the treatment. On 10th day mother noticed chill fever , which was continuous in nature. On 18th day , neonate developed skin lesions which on examination on 22nd day revealed macules, papules, pustules, become haemorrhagic and necrotic over trunk and extremities. In some areas small superficial scars observed vaginal & eye discharge send for gram-staining & culture. On gram staining, gram negative intracellular diplococci visualized microscopically inside polymorph nuclear cells and culture on Thayer-Martin medium developed of *N.gonorrhoeae*. Blood culture on Thayer-martin medium slowed *N.gonorrhoeae*. The neonate was diagnosed as a case of ophthalmia neonatorum with disseminated gonococcal dermatitis and gonorrhoea.



Figure: 1 Purulent discharge from eye



Figure: 2 Purulent discharge from vagina



Figure: 3 Gonococcal dermatitis



Figure 4: On 4th day- after cure

Discussion

Gonorrhoeae is caused by infection with *Neisseria gonorrhoeae* and may involve columnar epithelium in the lower genital tract, cervix, rectum, pharynx and eyes. Transmission is usually the result of vaginal, anal or oral sex. Mothers infected with gonor-

rhoeae may infect their babies during vaginal delivery, resulting in ophthalmia neonatorum. In late July, a femal infant of normal weight of gestational age was born to a primiparous mother after a full-term, uncomplicated pregnancy. The mother had received prenatal care at a local health center since the end of

the first trimester. She had been seen two times during the pregnancy. She gave no history of purulent vaginal discharge before the baby born. The father was a rickshaw puller and had history of purulent urethral discharge about 3 months back and was diagnosed as a case of gonorrhoeae. Treatment was given by general practitioner and no treatment of his partner was given at that time. On 4th day, the infant developed a copious yellowish discharge from both eye, along with ocular swelling and redness. Which correlate with the incubation period (2-5 days) of gonorrhoea. At 11th day of neonate mother brought neonate to a union subcenter there 1st generation cephalosporin and chloramphenicol eye drop given. No improvement of sign-symptom observed during the treatment. On 18th day neonate developed skin lesions, which on examination on 22nd day observed of macules, papules which become haemorrhagic or neonatic on trunk, extremities, palm and soles. In some areas small superficial scars observed. This sign symptoms correlated with sign symptoms of disseminated gonococcal dermatitis. This observation is similar to be study at Tanzania by JIF Saqawe et.al.¹³. On 22nd day of neonate, mother brought to OPD, Skin & VD, EMCH and clinically neonate diagnosed as a case of ophthalmia neonatorum with disseminated gonococcal dermatitis and gonorrhoea. Gonococcal infection of eye is usually a purulent

conjunctivitis. Secondary corneal involvement may occur progressing from ulceration to perforation and even the loss of eye. To avoid corneal damage, the treatment of this case started after sending vaginal and eye discharge blood for gram staining culture. Treatment with inj. ceftriaxone 125 mg IV daily and antibacterial eye drop given. On 3rd day clinical signs, symptoms of gonorrhoea and ophthalmia neonate improved. This observation establishes gonococcal infection. From 3rd day oral cefixime given twice daily for 7 days. On 4th day of treatment disseminated dermatitis resolved. Patient's mother and father given inj ceftriaxone 250 mg stat. at that time.

Conclusion: Ophthalmia neonatorum with disseminated gonococcal dermatitis and gonorrhoea is a rare case. Early diagnosis and prompt and effective treatment can cure the condition. Before delivery, vaginal discharge (if present) should send for gram staining and culture for early diagnosis and avoid ophthalmia neonatorum, gonorrhoea and gonococcal dermatitis.

Acknowledgment: The authors are thankful to authority of Enam Medical College Hospital for ethically approving us to publish this case report with photograph of the patient.

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