

NEONATAL CONJUNCTIVITIS – A REVIEW

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ABSTRACT

Ophthalmia neonatorum remains a significant cause of ocular morbidity, blindness and even death in underdeveloped countries. The organisms causing ophthalmia neonatorum are acquired mainly from the mother's birth canal during delivery and a small percentage of cases are acquired by other ways. *Chlamydia* and *Neisseria* are the most common pathogens responsible for the perinatal infection. Fortunately in most cases, laboratory studies can identify the causative organism and unlike other form of conjunctivitis, this perinatal ocular infection has to be treated with systemic antibiotics to prevent systemic colonization of the organism. Routine prophylaxis with 1% silver nitrate solution (Crédés method) has been discontinued in many developed nations for the fear of development of chemical conjunctivitis.

Key words: Crédés Prophylaxis; Neonatal Conjunctivitis; Ophthalmia Neonatorum; Sexually Transmitted Diseases.

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INTRODUCTION

Neonatal conjunctivitis is often known as *ophthalmia neonatorum* (Latin name). It is defined as conjunctivitis occurring in a newborn during the first month of life with clinical signs of erythema and oedema of the eyelids and the palpebral conjunctivae, purulent eye discharge with one or more polymorph nuclear per oil immersion field on a Gram stained conjunctival smear.¹ Originally described in 1750, it is one of the most common infections occurring in the first month of life.²

Ophthalmia neonatorum leads to blindness in approximately 10,000 babies annually worldwide.³ The major causes of Ophthalmia neonatorum are, in decreasing order, chemical inflammation, bacterial infection and viral infection. The majority of infectious neonatal conjunctivitis are due to bacteria.⁴ The bacterial causes include sexually transmitted diseases agents (*Chlamydia trachomatis* and *Neisseria gonorrhoea*), microorganisms from the skin (*Staphylococcus aureus*) and the mother's gastrointestinal tract (*Pseudomonas sp.*).⁵ The inflammation usually resolves spontaneously within a few days. Therefore, simple Gram stain and routine bacterial culture are often the only investigations that are required in most cases.⁶ Although simple investigation suffices, treatment has to be adequate because systemic complication and severe visual loss can occur in infection particularly with *Chlamydia*

trachomatis and *Neisseria gonorrhoea*.⁷ Apart from bacteria, herpes viruses can also cause neonatal conjunctivitis.

The organisms causing neonatal conjunctivitis are usually acquired from the infected birth canal of the mother, though some may acquire the infection from their immediate surroundings.⁸ The predisposing factors, which can increase the chance of the newborn acquiring neonatal conjunctivitis, include increase shedding of these organisms in the vaginal tract of the mother during the last trimester, premature rupture of membranes and prolonged labor. Neonatal conjunctivitis following caesarean section could be due to intrauterine chlamydial infection as the result of early rupture of the membranes⁹ or trans-placental or transmembrane transfer of these organisms.⁹

The epidemiology of Ophthalmia Neonatorum has changed following the prophylactic use of 1% silver nitrate solution (Crédé method); there was a marked reduction in the incidence of ophthalmia in the United States, Europe, and the United Kingdom following the widespread application of the Crédé prophylaxis.¹⁰ However, the role of silver nitrate prophylaxis is only to prevent ophthalmia due to gonococcal infections; it is not effective against Chlamydia. Silver nitrate prophylaxis is not used currently due to the ineffectiveness in preventing chlamydial infection and the tendency to cause chemical conjunctivitis. This method of prophylaxis has been replaced by the use of erythromycin or tetracycline ointment.¹¹