



The role of mycoplasma in eye infection

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Key words: Mycoplasma, eye infection, clinical isolates.

<http://dx.doi.org/10.12692/ijb/15.5.377-381>

Article published on November 28, 2019

Abstract

The aim of the research was to identify the role of bacteria in eye infections, which were isolated from people suffering from eye infections. The clinical isolates were developed on (Blood agar, chocolate agar, MacConkey agar) media and then characterized by Vitek 2 system. Five types of bacteria were isolated. 100 samples were collected. There were 83 positive isolates for bacterial transplantation. The highest incidence of mycoplasma in the age group (1-10 years), bacteria appeared *E.coli* in 22 cases, *K.pneumoniae* in 20 cases, *S.aureus* in 19 cases, *S.pneumoniae* in 15 cases and *N.gonorrhoeae* in 7 cases.

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Introduction

The eye is the sensory organ of living organisms, which is influenced by many different environmental factors and conditions and some methods and patterns of daily life which may cause damage or injury to the eye (Smolin *et al.*, 2010). Microorganisms can cause eye infections, causing many diseases, including Conjunctivitis, which invade any part of the eyeball or surrounding area (Todar, 2004). The lesions include the anterior part of the cornea, the wet membrane, the outer lining of the eye and the inner conjunctive eyelids, some of which extend to the inner parts of the lower and upper eyelids, causing severe damage to the eyes (Pierce *et al.*, 1982).

The normal flora is found in most external parts of the eye, such as eyelids and conjunctiva, and may also be present in the internal parts, reinforcement eye immunity for its important defense role by inhibiting the growth of the most common bacterium strains (Todar 2004) and bacterial species that cause extensive damage to the eyes. Streptococcus hemolyticus, Hemophilus influenza, Pseudomonas aeruginosa, Neisseria gonorrhoeae, Staphylococcus aureus (Cole *et al.*, 1999).

S.aureus has a diameter of about 1 micron. These bacteria belong to the Micrococcaceae family. They are positive for the chromium dye and are in clusters that are irregular and may appear collectively in a single form and are not sporadic (2004, Todar). The most important species of Staphylococcus is the *S.aureus* bacteria. It is characterized by its ability to analyze blood, ferment the mannitol sugar and produce the enzyme Catalase and Coagulase, resist the temperature of 50 ° C and high salt *et al.* , 2007). It is one of the most common causes of eye infections. It is also one of the most common germs in nature. It is found on the skin, mucous membranes, upper respiratory tract, air and soil. *S.aureus* carriers are estimated to be at the top of their necks (40-50%), it is a bacteria that can cause serious injuries when a defect or disturbances in the defenses of the host body Immunotherapy (Brooks *et al.*, 2010).

N.gonorrhoeae are dicococcic, which are in groups and are often multi-shaped. The diameter is about 1 micrometer. It is non-moving. It is not made for the plant. Carbonate (1993, Barrow and Feltham). All species of these bacteria are positive for oxides, most of which are positive for catalysis, an antioxidant of carbohydrates (Murray *et al.*, 1998) Neisseria gonorrhoeae is one of the most important species of Neisseria. It is responsible for a number of conditions, especially for people with immunity. The most important diseases are gonorrhea, arthritis and rheumatism. Newborns. (Cheesbrough, 2000).

E.coli is bacteria belong to the enterobacteriaceae, and are derived from the fact that they live in the human digestive tract and the Greek word (Khaton *et al.*, 2008) (intestine). In the intestine, where one gram of feces contains about 10⁷ colony-forming units (yah *et al.*, 2006), which are predominantly Escherichia-negative (1998, Nataro and Kaper), anaerobic, (Oxidase), Ulysses, Gelatin Analysis, Consumption of Jackets, Vaux Procur, Hydrogen Sulfide Gas Production, (2000, Macfaddin) glucose and lactose fermenter grow optimally at pH 6-7 and 37 ° C (Fotadar *et al.*, 2005).

S.pneumoniae is positive conjugation of the coagulase pigment of the natural flora of the genus. This is due to the fact that the opportunistic prostitutes are no longer immune to the immune system, and they are the main cause of the carcinogenicity of the carcinogenes. These are produced by the glycocalyx, which helps them to absorb the cells of the cell and thus protect them from insomnia and hypothalamus. -90%) of the population of the Anacodenian ethnic minority in the field of dental flora. Therefore, Aerobic conditions (Nilsson *et al.*, 1998).

Are Gram-negative bacilli, with sticky colonies due to the presence of a capsule that is bronchial, electrically ventilated, immobile, and non-composed of spores (Farmer, 1999). Clavicelella contains two types of surface antigens: polysaccharide (O antigen) and antigen (K antigen). Both of these antigens are associated with bacterial pathogens. Pneumococcal

bacteria are important opportunistic pathogens that cause hospital-acquired infections (Nosocomial Infections) resulting from their transmission from the gastrointestinal tract of diseased patients or hands in the hospital to some people or patients with immune system malfunction resulting from prolonged use of antibiotics. Are important factors that increase the risk of pneumococcal pneumonia (Podschun and Ullman, 1998).

Materials and methods

The study included the collection of 100 swabs of patients with eye infections of all age groups, both sexes from Basra General Hospital, Al Sader Educational Hospital, Al Fayhaa General Hospital, Al-Mawaneh Hospital in Basrah Governorate, in addition to private clinics and 50 control samples

from healthy persons. The samples taken from people with eye infections were planted on the irrigated medium and incubated in a 37 ° C.

Each isolate was cultivarized and cultivar was first identified with a pigment dye and gram dye. It was then identified by the vitek 2 system.

Result

The results of the present study showed that 83 cases of positive bacterial infection were found on the different media (blood agar, MacConky agar, Chocolate agar), The bacterial diagnosis was confirmed by biochemical tests provided by the Vitek 2 system by GP + AST) for Gram positive bacteria and GN + AST for Gram negative bacteria. Each card includes 64 non-traditional tests.

Table 1. Diagnosis of bacterial species of eye swabs.

Percentage	Number of cases of infection	Type
26.5%	22	<i>E.coli</i>
24%	20	<i>K.pneumoniae</i>
22.8%	19	<i>S.aureus</i>
18%	15	<i>S.pneumoniae</i>
8.4%	7	<i>N.gonorrhoeae</i>

$P \leq 0.01$, $X^2 = 0.0045$.

The system is characterized by high accuracy and results are excellent and very good, as well as the speed of diagnosis, where the duration of diagnosis (8-3) hours.

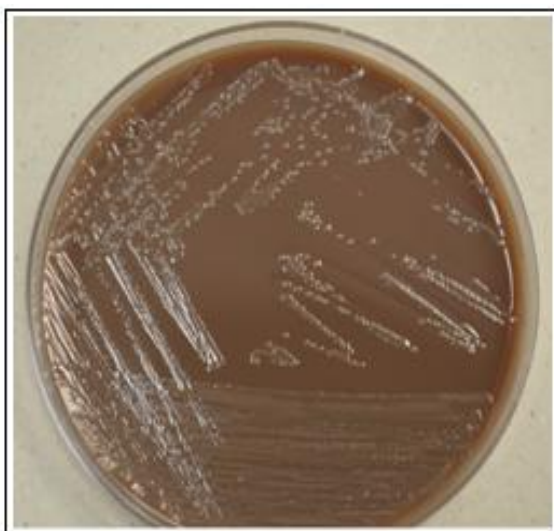


Fig. 1. *N.gonorrhoeae* on chocolat agar.



Fig. 2. *S.aureus* on chocolateagar.

The results of the statistical analysis showed that there were significant differences $P < 0.01$, $X^2 = 0.0045$. Table (1).

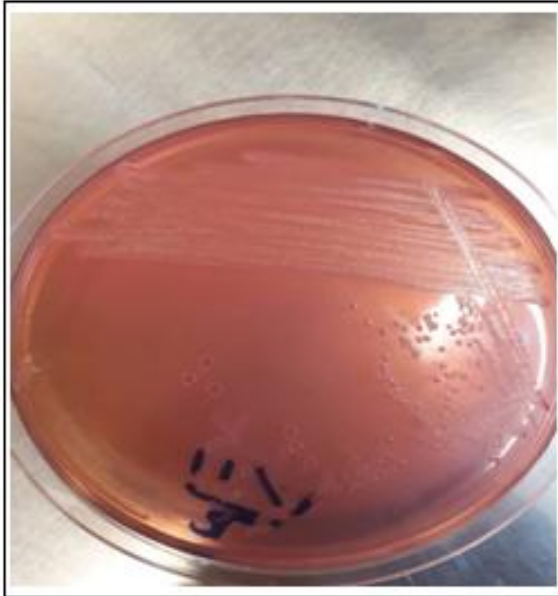


Fig. 3. *E.coli* on MacConky agar.

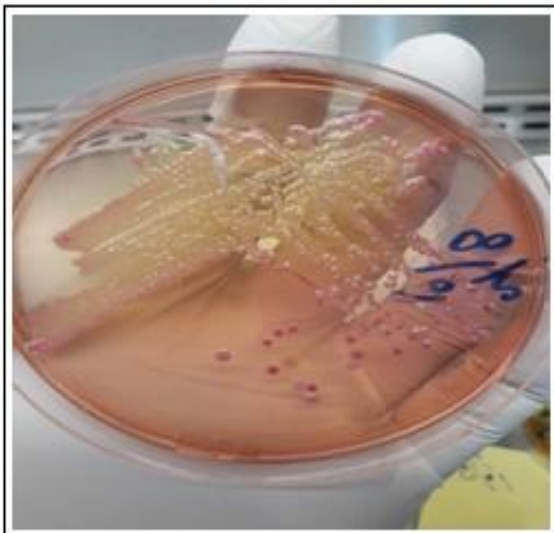


Fig. 4. *K.pneumoniae* on MacCoky agar.



Fig. 5. *S.pneumoniae* on blood agar.

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