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Detection and Identification of *Chlamydia* causing Ear infection by PCR.

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ABSTRACT:

Chlamydia bacteria were isolated and identified from One hundred ear swab are collected from patients had otitis externa and otitis media. Ear swabs are taken from patients attending the ENT consulting clinics at Basra General Hospital and Abi Al-Khasib Hospital, of both sexes and of different ages, from November 2022 to May 2023. Polymerase chain reaction (PCR) is used to diagnose 19 cases of chlamydia, including 11 cases of chlamydia trachomatis and 8 cases of chlamydia pneumonia, There are 14 co-infections with other bacteria and 5 single cases of *chlamydia*. The results of the current study shows the registration of 19 cases of *C.trachomatis, C.pnemoniae* and more injuries within the age group (1monthes-10) years, by 7 cases of infection and by 36.8%, while 5 cases of infection are recorde in the age group (11-20) years and by 26.3%, 4(21.05%) cases of infection in the age group (21-30) years ,Two cases of infection in the age group (31-40) rate of (10.5%) and One case (5.2%) in the age group (>60) .These pathogens are find inside cells that are difficult to identify, and they are the cause of pneumonia, ear effusion, inflammation of the auditory canal, and perforation of the eardrum, which affects the hearing mechanism.

Keywords: Chlamydia trachomatis, Chlamydia pneumonia, Otitis Externa, Otitis Media , Hearing Loss ,PCR reaction**.**

1. **Introduction**:

Ear infection represented by otitis externa(OE) and otitis media(OM), OE is a group of acute or chronic infections or inflammation with effusion in the external auditory canal or the pinna of the ear swimmer's ear.(Hateet *et al .,2022*).

It occurs as a result of disruption of the protective squamous epithelial layer of the ear canal through infection with chlamydia or other bacteria or as a result Several risk factors that predispose the individual to develop otitis externa, including water trapping in the ear canal due to sweating, dampness and swimming**.**(Wiegand ***et al*** .,2019) .Either epithelial disintegration occurs as a result of an increase in the pH or removal of serum as a result of negative cleaning of the auditory canal. Acute otitis externa causes auditory fullness and itching. Trachomatis (Pantazidou, *et al*.,2022).

Otitis media is one of the most common diseases in children and is considered the second most important cause of hearing loss and decreased ability to learn and academic achievement represented by acute and chronic inflammation or otitis media with effusion or inflammation of the tympanic

membrane (Tesfa *et al* .,2020)This occurs as a result of viral upper respiratory tract infection that disrupts the mucosal system and weakens the mechanical defense The primary infection of the host is caused by bacterial invasion, chlamydia, or a defect in the Eustachian tube, or as a result of genetic and environmental factors. (Bhatia *et al*.,2022).

Among the most important and dangerous pathogens of upper respiratory tract infection and otitis media in children are *Chlamydia trachomatis* and *Chlamydia pneumoniae*, as the ear is considered the appropriate environment for its reproduction (Daloglu ,2023). Chlamydia pneumoniae is a common pathogen of upper respiratory tract infection, bronchitis, sinusitis, otitis media, and pneumonia due to the high affinity of the epithelial lining of the airways.(Daloglu ,2023)

This study aims to isolation and identification of *Chlamydia trachomatic* and *chlamydia pneumoniae* associated with otitis externa and otitis media.It is estimated that *Chlamydia pneumoniae* infection causes about 70 asymptomatic or very few respiratory infections, 20 symptomatic upper respiratory tract infections and 10 cases of pneumonia. (Alves *et al* .,2020).

Chlamydia trachomatis is also considered a pathogen causing ear infections since 1960 and has been isolated from patients with acute ear infections or otitis media with effusion. (WHO ,2022) In addition , It causes eye infections (Thajeel,2019)and injuries to premature babies.(Jomaa,2022).

Polymerase chain reaction(PCR) is a technique which allows for the amplification of limited part of the bacterial DNA present in the middle ear fluid, (Sawada *et al*., 2019) also indicated that C. pnemoniae is the main cause of pneumonia and otitis media and was diagnosed with PCR technology. In addition to the health and economic situation, it has a significant impact on the occurrence of ear infection and is considered one of the obstacles affecting the health of the ear. The study of (Block *et al* .,1997) indicated that C. pnemoniae is a common cause of pneumonia and otitis media in children and found within his study that 8 children with acute ear infections and discovered five infections were positive C. pnemoniae. A study Hammerschlag(2000), isolated C. pnemoniae from middle ear fluid in children with ear infections, and indicated that pneumonia may play a role in causing acute middle ear infections.

2- Materials and Methods :

Samples were collected through the use of special sterile cotton (Swaps) for patients with otitis externa and otitis middle , The swap was placed in a special sterile and refrigerated container by an ice bag refrigerated box according to the method (Furr and Taylar-Robinson, 1987), and transferred directly to the laboratory to detect the presence of *chlamydia* through DNA extraction using Presto Buccal Swab g DNA extraction kit and amplified by (PCR) Polymerase chain Raction to detect it moleculely. (Sawada *et al*., 2019)

2-1 DNA extraction of Chlamydia:

A complete kit prepared by Geneaid is used to extract DNA from the study samples according to the manufacturer's steps as follows:

• Sample preparation: removing the lumbar part of the swaps by sterile tweezers and placed in a centrifugal tube (Eppendorf tube) with a size of 1.5 ml, added to it (500) microns of S1Buffer solution, and (20) microns of Proteinase K and mixed by the mixer Vortex for 10 seconds, and then incubated with a water bath at a temperature of 60 m ° C for 10 minutes, After the tubes came out of the water bath, the cotton part and the solution from it were transferred to the filter column tubes after placing them in the collection tubes with a size of 2 *ml* using sterile forceps for each sample, while keeping the centrifuge tubes aside.

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• DNA suspension: (500) *ml* of absolute ethanol and cooled are added and mixed well, transfer (750) *ml* of the mixture to GD Column and centrifuge him (14-16000) g for one minute, then get rid of the filtrate and tube and transfer GD Column filter to a new collection tube (2) *ml*.

• Wash: Add (400) *ml* of W1 Buffer solution to GD Column and make a centrifuge for (30) seconds and then put the GD column tube in a new collection tube and get rid of the filtrate and was placed in the centrifuge for (3) seconds for drying.

• Elution: Transfer GD Column to the eppendorf tube clean and sterile centrifuge tube and add (100) *ml* of warm dissolving solution Elution Buffer (withdraw a quantity of dissolving solution directly from the can and put in the eppendorf tube tubes and placed in the water bath for heating, the required amount is taken and added to the sample for the purpose of dissolving DNA) and leave for (3) minutes and make a centrifuge for a minute and repeat it again and then keep the DNA extract in freezing in -20℃.

2-2 PCR test: Foure specific primers are designed for 16 s ribosomal gene, two primers of Chlamydia trachomatis genome and two primers of Chlamydia *pneumoniae* . The primer sequences to *C.trachomatis* are as: Forward: 5'-TGG CGG CGT GGA TGA GGC AT-3' and Reverse: 5'-CTC AGT CCC AGT GTT GGC GG-3' and the length of PCR target is 300 bp (12). The primer sequences to *Chlamydia pneumoniae* are as: Forward: 5' –AAGGGCTATAAAGGCGTTGCT-3 and Reverse: 5' –TGGTCGCAGACTTTGTTCCA- 3' and the length of PCR target is 474bp . PCR reaction was done in a total volume of 20 µl PCR master mix (13).As in the table (1).

Table 1.PCR solution reaction mixture.

Chemicals	Volume
Master mix	5 µl
Premier Forward	1 µl
Premier Reverse	1 µl
DNA	7 µl
DdH2O	6 µl
Total Volume	20 µl

2-3 PCR amplification program: The Spring thermal cycle device is used to amplify the DNA to *C.trachomatis* after all additions are made and according to the PCR program (Hameed and Al –Farttoosy,2022) . Initial denaturation at 94℃ for 3 min, followed by 30 cycles of denatuation at 94℃ for 1 min, annealing at 64℃ for 1 min, extension at 72℃ for 1min; and final extension at 72℃ for 5 min. The DNA of *C. pneumoniae* was amplified after completing the additions according to the PCR program, Initial denaturation at 94℃ for 3 min, followed by 30 cycles of denaturation at 94℃ for 1min, annealing at 55℃ for 1min, extension at 72 ℃ for 1min; and final extension at 72℃ for 5 min. . PCR products were separated by electrophoresis in 2% gel agarose, stained with ethidum bromide and visualized by UV light. (Keles ,2005)

2-4 The statistical program SPSS (Statistical package for Social Science) Ver.11 was adopted to determine the statistical significant differences between the different variables in the statistical analysis using the sample homogeneity test (chi-square).

3-Results and Discussion :

100 samples are collected from several hospitals in the city of Basra, The results of the study shows that chlamydia trachomatis, chlamydia pneumonia and other bacteria can be isolated from patients with otitis media and otitis externa (acute,chronic and with efussion). Polymerase chain reaction (PCR) is used to detect chlamydial infection in people with Otitis media and otitis externa because this reaction proved to be more sensitive and to identify the microbial type quickly and inexpensively than traditional microbiology methods to check for the presence of infection-causing microbes in the middle and outer ear. These molecular methods provide More positive results than traditional methods. (Sawada *et al*., 2019).

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19 cases of *chlamydia* bacteria were diagnosed , including 11 cases of *chlamydia trachomatis and* 8 cases of *chlamydia pneumonia* as in Table (1). There are 14 cases of co-infection with other bacteria and 5 single cases of *chlamydia*. The special gene is amplified by the forward and reverse primers of the two types of *chlamydia* and gave a positive result after comparing it with the ladder size (100-2000)pb. as shown in fig.(1) and (2)

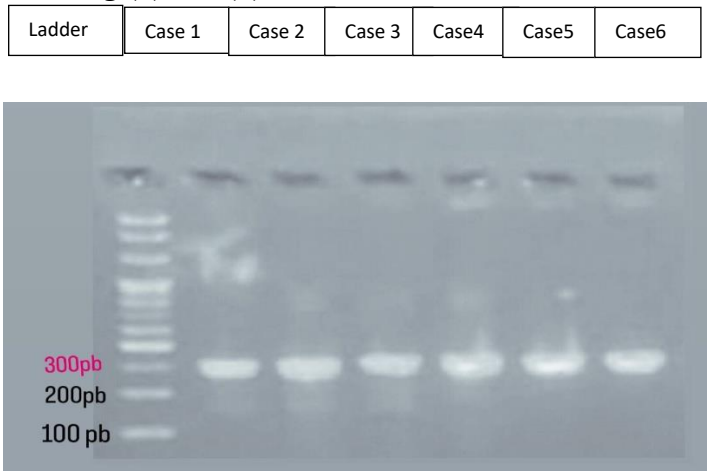

Fig. (1) Electrorelay of *C.trachomatis* products (300bp) on acarose gel at a concentration of 2% and dye with ethidium bromide dye 0.5 microns with a voltage difference of 90 volts for (45-30) minutes.

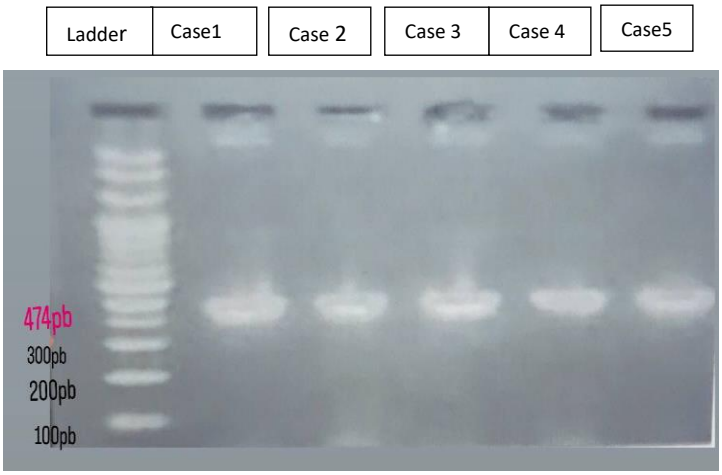

Fig.(2)Electrorelay of *C.pneumonia* products (474bp) on acarose gel at a concentration of 2% and dye with ethidium bromide dye 0.5 microns with a voltage difference of 90 volts for (45-30) minutes.

The results of the current study shows the presence3(15.7%) of single infections with *Chlamydia trachomatis*, two single infections with *Chlamydia pneumoniae* (10.5%), and the presence of combined infections with *Chlamydia trachomatis* and *Chlamydia pneumoniae* with other bacteria 8(42.1%), 6(31.5%) respectively**.** As it mentioned in the Table (2).

Table2 . Distribution of single and co-infections of *C.trachomatis* and *C.pnemoniae* in middle and outer ear infections.

Chlamydia species	Single injuries	Common injuries	The total number
C.trachomatis	**3(15.7%)**	**8(42.1%)**	**11(57%)**
C.pneumoniae	**2(10.5%)**	**6(31.5%)**	**8(42.1%)**
Total	**5**	**14**	**19**

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The results of the current study shows the registration of 19 cases *of C.trachomatis*, *C.pnemoniae* and more injuries the age group (1mon-10) years by 7 cases of injury and by 36.8%, It is considered the most affected age group , while 5 cases of infection were recorded in the age group (11-20) years and by 26.3%, 4 cases of infection in the age group (21-30) years by 21.05% and two cases of infections in the age group (31-40) years by 10.5% and one case of infection in the group (>60) years by 5.2% , as shown in Table (3). The results of the statistical analysis of the percentages showed that there are not significant differences below the level of significant (P≤ 0.05).

Table 3. Distribution of Study Samples by Age Groups of Patients with Chlamydia.

Age group	Number of infection cases	Percentage
1 month- 10	7	36.8%
11-20	5	26.3%
21-30	4	21.05%
31-40	2	10.5 %
41-50	-	-
51-60	-	-
>60	1	5.2%
Total	19	-

(P≤ 0.05 , X^2=6.000)

There were also 7 cases of infection with the highest infection rate (36.8%) in the age group (1mon -10 years), due to the widening and short of the Eustachian tube in children, especially infants, which leads to milk coming down through the Eustachian tube to settle in the middle ear cavity. As the European authors noted in Their studies that children are more susceptible to developing purulent otitis media , which is the main cause of hearing loss in children aged (2-7) years, at a rate of 30.2%. This is what paves the way for opportunistic bacteria to cause infection, and continuous swimming leads to entering water, especially polluted water. This causes the growth of fungi, which in turn affects the lining membranes and gives an opportunity to Chlamydia and some types of bacteria to cause infection or exposure to viruses (especially the common cold).(Kim *et al*.,2019).

As indicated Keles *et al*.,(2005) age group (2-14) is more infected with C. trachomatis. Sawada et al.,(2019) also showed in his study that C. pneumoniae and other bacteria are present in the fluids of the middle ear and nasopharynx of pediatric patients with acute otitis media.

Table 4. Distribution of Study Samples by Sex of Patients with *C. trachomatis* and *C. pneumoniae*.

Gander	Number	Percentage
Male	7	36.8%
Female	12	63.1%

(P≤ 0.05 , X^2=1.316)

The results of the current study shows females were infected with *Chlamydia* bacteria that cause ear infections 12 (63.1%) more 7 (36.8%) males infections. This indicates that females are more injured than males. The results of the statistical analysis showed that there were no significant differences in terms of sex for patients infected with Chlamydia bacteria that cause ear infections below a significant level (P≤0.05). As show in Table (4).

This is due to increased ear moisture in women and their exposure to upper respiratory infections directly or indirectly through taking care of children with colds or touching their

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belongings. This study is consistent with what was found. To it(Ogawa, 1990) he found 2 cases of C.trachomatis infection out of 6 patients with otitis media, 3 cases out of 13 patients with otitis media with infiltrates, and 9 cases out of 31 patients with suppurative otitis media

The results of the current study shows that among 100 patients, 51(62.1%) cases have otitis media and 40 patients with otitis externa. Of these 12 cases of *chlamydia* infection, which causes OM, and 7 cases of *chlamydia* infection of OE. Table (5).

which indicates that most cases of ear infection are otitis media as a result of continuous exposure to viral upper respiratory tract infections , which sets the stage for infection. Bacteria can disrupt the mucous system ,which weakens immunity or the basic mechanical defense of the host. . They are transmitted through the Eustachian tube, which is responsible for ventilation of the middle ear and drainage of fluids formed in the middle ear. The channel opens in the pharynx near the nose. It is natural for microbes to move from the pharynx and nose into the tube and then reach the middle ear(Coronado-Cerda.*et al* .,2020)

Table 5. shows the types of infection for patients with ear infections

Injury cases	Number of infection	Percentage %
Otitis Media(OM)	51	62.1 %
Otitis Externa(OE)	40	48.7 %
Chlamydia cases OM	12	23.5%
Chlamydia cases OE	7	17.5%

($P \leq 0.05$, $X^2=1.330$)

This study is similar to what Pontefract *et al* .,(2019) indicated that acute otitis media and otitis media with infiltrates (suppuration) occur primarily in children, while otitis externa occurs in children and adults. The study Mehel *et al* .,(2022)that external otitis occurs at any age and is diagnosed through symptoms and examination results and often occurs in the summer. The study McBride *et al*.,(2020) proved that quarantine reduced the incidence of ear infections due to the decrease in the incidence of ear infections. Respiratory.

4-CONCLUSION :

Based on the results of the current study, the following conclusions can be reached:

1 - *Chlamydia* has emerged as the second cause of ear infections after *S.aureus* bacteria.

2- Two types of *chlamydia* appeared in this study*: C. pneumoniae* and *C.trachomatis*. 3 - It is possible for the patient to become infected with *Chlamydia pneumoniae*, which causes upper respiratory tract infection and for the infection to spread to the middle ear through the Eustachian tube.

5-References:

Alves, M. S., da Silva Cariolano, M., dos Santos Ferreira, H. L., Sousa de Abreu Silva, E., Felipe, K. K. P., Monteiro, S. G., ... & Lima-Neto, L. G. (2020). High frequency of Chlamydia pneumoniae and risk factors in children with acute respiratory infection. *Brazilian Journal of Microbiology*, 51, 629-636. doi: https://doi.org/10.1007/s42770-020-00229-w.

Bhatia, R., Chauhan, A., Kaur, K., Rana, M., & Pradhan, P. (2022). Prevalence of Ear Infections in Children (0 to 15 Years) of India: A Systematic Review and Meta-Analysis. Int Arch Public Health Community Med, 6, 080. doi: 10.23937/2643-4512/1710080

Coronado-Cerda, E. E., Ancer-Rodríguez, J., Montemayor-Martínez, R., Canabal-Hermida, F., Gallegos-Avila, G., & De la Garza-Ramos, M. A. (2020). Chlamydia trachomatis in the gingival sulcus and pharynx in patients of Northeast Mexico. Clinical and Experimental Dental Research, 6(4), 415-419. doi: https://doi.org/10.1002/cre2.290

Daloglu, H. (2023). Childhood Chlamydia. doi: 10.5772/intechopen.111711.

Hateet, R. R., Banoon, S. R., & Mohammed, M. M. (2022). Isolation and Identification of Pathogenic Bacteria Causing Otitis Media in Misan Governorate. J Pure Appl Microbiol, 16(2), 1384-1391.doi: https://doi.org/10.22207/JPAM.16.2.66.

Hameed, S.N.; Al –Farttoosy, A.H.(2022). Biodegradation of Carbendazim using Four bacterial Strains **.***Misan Journal for Acadeamic studies.*21(44),346-358

Jomaa, Z. A. K.; & AL-Ghizawi, G. A. J. (2022). The Role of Chlamydia in Infections Transmitted from Mother to Child. Journal of Pharmaceutical Negative Results, 13.

Keles, E., Bulut, Y., Kaygusuz, I., Karlidag, T., Yalçin, S., Ozdarendeli, A., & Alpay, H. C. (2005). Identification of Chlamydia trachomatis with polymerase chain reaction in middle ear fluid in otitis media with effusion. *Indian Pediatrics*, *42*(7), 686.

Kim, S. K.; Hong, S. J.; Pak, K. H.; & Hong, S. M. (2019). Analysis of the microbiome in the adenoids of Korean children with otitis media with effusion. *The journal of international advanced otology*, 15(3), 379.

Korhonen, J. T., Puolakkainen, M., Häivälä, R., Penttilä, T., Haveri, A., Markkula, E., & Lahesmaa, R. (2012). Flotillin-1 (Reggie-2) contributes to Chlamydia pneumoniae growth and is associated with bacterial inclusion. Infection and immunity, 80(3), 1072-1078. doi: https://doi.org/10.1128/iai.05528-11

Masue, N., Deguchi, T., Yokoi, S., Yamada, T., Ohkusu, K., & Ezaki, T. (2007). System for simultaneous detection of 16 pathogens related to urethritis to diagnose mixed infection. International journal of urology, 14(1), 39-42. doi: https://doi.org/10.1111/j.1442-2042.2006.01660.x.

McBride, J. A., Eickhoff, J., & Wald, E. R. (2020). Impact of COVID-19 quarantine and school cancelation on other common infectious diseases. The Pediatric infectious disease journal, 39(12), e449-e452. doi*:* 10.1097/INF.0000000000002883**.**

MEHEL, D. M., TURGUT, N. F., ÇEVİKER, S. A., ÖZDEMİR, D., & ÖZGÜR, A. (2022). Effectiveness of ciprofloxacin in the treatment of Acute Otitis Media. Journal of Experimental and Clinical Medicine, 39(2), 365-368. doi: 10.52142/omujecm.39.2.11**.**

Ogawa, H.; Hashiguchi, K.; & Kazuyama, Y. (1990). Isolation of Chlamydia trachomatis from the middle ear aspirates of otitis media. *Acta oto-laryngologica*, *110*(1-2), 105-109.doi:https://doi.org/10.3109/00016489009122522.

Pantazidou, G., Dimitrakopoulou, M. E., Kotsalou, C., Velissari, J., & Vantarakis, A. (2022). Risk Analysis of Otitis Externa (Swimmer's Ear) in Children Pool Swimmers: A Case Study from Greece. Water, 14(13), 1983. doi: https://doi.org/10.3390/w14131983

Pontefract, B., Nevers, M., Fleming-Dutra, K. E., Hersh, A., Samore, M., & Madaras-Kelly, K. (2019, November). Diagnosis and antibiotic management of otitis media and otitis externa in United States veterans. In Open Forum Infectious Diseases (Vol. 6, No. 11, p. ofz432). US: Oxford University Press. doi: https://doi.org/10.1093/ofid/ofz432.

Sawada, S., Okutani, F., & Kobayashi, T. (2019). Comprehensive detection of respiratory bacterial and viral pathogens in the middle ear fluid and nasopharynx of pediatric patients with acute otitis media. The Pediatric infectious disease journal, 38(12), 1199-1203. doi*:* 10.1097/INF.0000000000002486**.**

Tesfa, T.; Mitiku, H.; Sisay, M.; Weldegebreal, F.; Ataro, Z.; Motbaynor, B.; & Teklemariam, Z. (2020). Bacterial otitis media in sub-Saharan Africa: a systematic review and meta-analysis. BMC infectious diseases, 20, 1-12. doi: https://doi.org/10.1186/s12879-020-4950-y.

Thajeel, Zahraa Hilal (2019) Isolation and diagnosis of bacterial causes associated with eye infections in the city of Basra, southern Iraq, Master's thesis, College of Education, University of Basra.

Wiegand, S.; Berner, R.; Schneider, A.; Lundershausen, E.; & Dietz, A. (2019). Otitis externa: investigation and evidence-based treatment. Deutsches Ärzteblatt International, 116(13), 224. doi: 10.3238/arztebl.2019.0224

WHO (2022) Trachoma (World Health Organization;). Available at: https://www.who.int/news-room/fact-sheets/detail/trachoma (Accessed July 1, 2022). doi: https//doi.org/10.1371/journal.pntd.0010660.

Detection and Identification of *Chlamydia* causing Ear infection by PCR.

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Summary:

The current study aimed to isolate and diagnose the bacteria Chlamydia causing otitis from infected patients in Basra city. 100 swabs were collected from patients from government hospital consultants in Basra city for the limited period from 1 - November -2022 to 31 - May -2023.

Chlamydia bacteria were isolated and diagnosed through DNA extraction by . Buccal swab gDNA extraction kit.

The current study showed that the number of cases of otitis media 51 (62.1%) is more than the cases of otitis externa 40 (48.7%), and showed 20 (24.3%) cases of perforation of the eardrum membrane and 27 (32.9) cases of ear suppuration.

Using molecular diagnostic methods, 11 (57%) cases of *Chlamydia trachomatis* and 8 (42.1%) cases of *Chlamydia pneumoniae* were isolated , The effect of infection on patients was studied in terms of age groups and sex, the age group (1 month - 10 years) years appeared to be the most exposed to infection with Chlamydia bacteria and causing ear infection, the study found that the rate of infection of females with Chlamydia bacteria 12 (63.1%) is more than the rate of male infection 7 (36.8%), where it showed 5 cases of single infection Chlamydia and 14 cases of infection combined with other bacteria.

تحديد وتشخيص *Chlamydia* المسببة لعدوى الاذن باستخدام PCR.

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الخلاصة :

هدفت الدراسة الحالية الى عزل وتشخيص بكتريا *Chlamydia* المسببة لالتهاب الاذن من المرضى المصابين في مدينة البصرة . جمعت 100 مسحة من المرضى من استشاريات المستشفيات الحكومية في مدينة البصرة للفترة المحدودة من 1 - تشرين الثاني -2022 الى 31 –ايار -2023 .

تم عزل وتشخيص بكتريا *Chlamydia* من خلال استخلاص الحامض النووي DNA بواسطة Buccal swab. gDNA extraction kit .

اوضحت الدراسة الحالية ان عدد حالات الاصابة بالتهاب الاذن الوسطى Otitis Media 51 (62.1 %) اكثر من حالات الاصابة بالتهاب الاذن الخارجية Otitis Externa 40 (48.7 %) .واظهرت 20 (24.3 %)حالات اصابة بثقب غشاء طبلة الاذن و27 (32.9) حالة اصابة بتقيح الاذن (الخارجية والوسطى).

باستخدام طرق التشخيص الجزيئي تم عزل 11 (57 %) حالة اصابة *Chlamydia trachomatis* و8 (42.1 %) حالات اصابة *Chlamydia pneumoniae* .دُرس تأثير الاصابة على المرضى من ناحيتي الفئات العمرية والجنس , ظهرت الفئة العمرية (1 شهر – 10 عاماً) سنة هي الاكثر تعرضاً للإصابة ببكتريا *Chlamydia* والمسببة عدوى الاذن, وجدت الدراسة ان نسبة اصابة الاناث ببكتريا *Chlamydia* 12 (63.1%) اكثر من نسبة اصابة الذكور 7 (36.8%).حيث اظهرت 5 حالات اصابة مفردة *Chlamydia* و14 حالة اصابة مشتركة مع البكتريا الاخرى.

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