ISOLATE AND DIAGNOSE OF BACTERIA FROM AL-DIWANYA AND AL-QASSIM HOSPITAL PATIENT

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Abstract :

All this study is about isolating and diagnosing bacteria that causes different infection .about (50)sample had been collected from patient ,these samples include urine, ear swab, throat swab,stool,viginal swab and skin swab ,the patient were from Al-Diwanya and Al-Qassim hospital. These patients were in different ages and sexes, about (25)sample were staphlococcus that include swabs from (urine,ear,skin,vigina and throat) in the rate of 0.5% .As for E-coli the swabs (12)were from (urine,ear,vigina and throat) in the rate of 0.24%.about pseudomonas (6) cases were isolated from (ear and throat) in the rate of 0.12%,while streptococcus was(4)samples in the rate (0.08%).

As for as candida (3)samples were isolated from (urine and throat)in the present of 0.6%.staph aureus were highly sensitive to streptomycin in the present (89.66) otherwise staph epidermis was high sensitive to ampicillin in the rate (83.34%).Either for streptococcus was resistance in the present (92.37%)for Gefotaxime antibiotic .

As for E-coli it was sensitive to Gefotaxime antibiotic in the rate of 75% while pseudomonas high resistance for Gefotaxime in the present of (85.72%).

Summery :

The current study included the separation and identification of bacteria that causes including (50) samples for ear,thrawt,skin. Including tonsillitis, ear, nose,.The pathalogical samples were collected from the patients in the consulting infirmary in Al-Diwanya general hospital and Al-Qassim hospital. samples were for different ages and sexes.

Biochemical tests were excuted to show the ability of this bacteria of producing some enzymes (positiv or negative) Gram's stain , dignosis (14)samples from throat swab appear bacteria *Streptococci pyogenes* ratio(%65) it was followed bacteria *Staph. aureus* in ratio (%35) while number isolated dignosis from swab.while isolated bacteria from wounds it was *Staph. aureus* to in ratio (%60) followed *Escherichia. Coli* in ratio (%40) while bacteria isolated from eye it was followed represented *Staph. aureus* ,*Staph. epidermidis was* (%38) all it either isolated bacteria from healthy persons as control groupe it was *Escherichia. Coli* in high ratio (%52.5) it was followed *Staph. aureus* in low ratio it found in healthy personal in ratio (%10) only different aereas in body . It was showed *Staph. aureus* high sensitive to Streptomycin antibiotic in ratio (%89.66).while *Streptococci* bacteria was sensitive in ratio (%92.37) to Gefotaxime antibiotic .While *Escherichia. Coli* bacteria it was sensitive to Gefotaxime

antibiotic in ratio (%75). while appear *Pseudomonas aeruginosa* bacteria high sensitivity to Gefotaxime antibiotic in ratio (%85.75).

Introduction :

Bacterial infection includes the bacteria that causes disease when it inters the body .which sometimes leaves it's original location for another location for immunity weakness reasons of the patient ,or when it invade some tissues like skin ,causing different infection ,it even can enters the blood stream causing state of septicemia which leads to death .

The environment and community has a big role in spread of pathogenic bacteria responsible of different infection in the body.

The air contamination with bacteria specially the bacteria that present in hospitals like pseudomonas which plays a role in ear and nose infection. This bacteria is the common causes for disease developing countries like Iraq (Niciolatill *et al.*2000)

And the random use for antibiotics in disease treatment include respiratory tract infection ,tonsils, lung and skin infection like wounds ,presence of resistance for it and negative effect on the immune system (Cheng,1998).

The presence of bacteria in the body and in some it's natural locations cause the bacteria transform into opportunistic bacteria causes body infections .that in cases of immunity weakness for the patient or

Maltreatment leads to the weakness of immune system that Encourage the bacteria to leave it's natural locations and attacks some body areas causing infections specially in the presence of suitable conditions as staph aureus bacteria which secretes a number of enzymes that help in bacteria spread in the body like lipase (schaberg,2000).

Pseudomonas have virulence factors such as toxins (Exotoxin A, Exotoxin S),protease ,lipase and contains lipid Polysaccharides that increases it's resistance for phagocyte (Jawetz ,et al .,1998).

Otherwise Escherichia coli cause wounds and burns septic that for the different of pathogenic flagella that consider one of the virulence factors (volk, et al ,1986).

Plus that it have Intestinal toxins and resistance for antibiotics (Sussman ,1985)and staph epidermidis is negative for coagulase test and looks like staph aureus and cause hospital septic and from it's Complications that it cause central nerves system septic .

As for streptococci it is positive for gram stain causing tonsils ,throat , Pharynx and Conjunctive eye infections (well stood, 1987) .

Most positive and negative cram stain bacteria are forming beta lactamase enzymes (Alekshun &levy,1997) by Analysis of penicillins and cephalosporin’s such as Escherichia coli and most important

virulence factors in staph aureus (Jawetz et al., 1980).As for streptococci pyogenes produces toxins that have big role in secretions of some enzymes (Stevens ,et al., 1992) it had cilia that help in sticking on tissues and make injury (Toslon,et al,1997).

Aim of study :

1-isolation and diagnoses of pathogenic bacteria that causes different infection in the body .

2- make sensetive test for the bacterial samples for (6)types of antibiotics to recognize the best antibiotic for different infection.

Sample collection :

(50)sample were collected from patients have different infection in different areas in the body including(tonsils ,ear, wounds and vigina) that by taking swab from infection area and from Consultancy Clinic in Al-Diwanyah hospital for the period from 1 /2 to 15/2/2018.

Sample culture :

Samples were cultured on Macconkey agar ,blood agar and chocolate agar .some these peteridish were incubated Aerobic in 37°C fir about 24hour for bacteria growth ,other petridishs were incubated Anaerobic by reducing (CO_2) using Gas back flame and candle both (Cown and steel,1992)

Bacteria isolate and purification :

The pathogenic was applied on culture media by striet on the medium that mentioned Previously. The bacteria were isolated based on the shape and color of the colony and type of analyses it made on the media (blood agar) and purified on nutrint agar (chocolate agar) in the labortary and obtain in pure form .

Sensitive test for antibiotics :

(9)types of antibiotics from (WAQAST) company had been used and made a sensetive test for isolted bacteria and that by using molar henton agar ,where (0.1)ml form the grown matured bacteria using strelied Publisher glass were spread . after publication the dish were leaved for (5)minutes then the antibiotic tablets are put in then in the incubater for 24hour in 37°C .then notice the inhibition areas around

the antibiotic tablets that were collocated in millimeter and the results were compared with measurements .

Result and discussion :

The taken samples was in different type of bacteria (positive and negative)for gram stain this study was about the positive and negative bacteria types for gram stain , staph aureus was the highest percentage (0.5%) otherwise the other bacteria group isolated from different body areas the Escherichia coli was (0.22%)than pseudomonas was in the rate (0.12%) as for streptococcus and candida was less percentage (0.08% and 0.06%) .

Some studies showed Prevalence of staphylococcus aureus making injuries it was the highest percentage in infections for (throat, wounds ,ear and skin) than Escherichia coli ,pseudomonas ,streptococcus ,candida (Brook,1980)

Staph aureus was high pathogenic it was isolated from urine in the rate (0.2%) and from throat (0.08%) from ear (0.04%) from vigina and from skin (0.08%).

For pseudomonas had a big role in ear and throat infection(1980,خليل)

And use of wrong ways in wounds cleaning and ear cleaning helps in exposure for pathogenic bacteria (Bed Worth ,1992)while

Environmental contamination happen by the action of some bacteria that infects the water and food contamination with that bacteria this consider an environmental contamination, otherwise ear injury with Escherichia coli in the percentage of (0.04%) it also isolated from stool in the rate (0.04%) and from urine in the rate (0.16%) and from vagina (0.04%) ,as from candida it was isolated from urine in the rate (0.04%)and from throat (0.02%).

Sensitivity of bacteria for antibiotics :

The antibiotics is important in reducing of disease that the body exposed to it has been tested sensitivity for antibiotics to all types of bacteria isolated from different infection in the body (kerby Bauer ,1966).

The isolated bacteria staph aureus showed resistance for tetracyclin in the rate (62.06%)and trimethprim ,Rifampicin ,Ampicillin less resources than Tetracyclin otherwise it record high resistance for Streptomycin in the rate (89.66%) .

Staph .epidermis was resistance for Neomycin in the rate (66.66%)than Rifampicin,Ceftazidime in the rate (50%) while it was highly resistance to Ampicillin in the rate (83.34%) as for Neomycin the strepto.pyogen was resistance to it in the rate of (53.84%) while it

was resistance to Cefotaxime in the rate (92.37%)also resist Ciprofloxacin in the rate (46.15%)than Rifampicin in the rate (30.76%)close to results of (Cheng et al .,1998).

Escherichia coli resist Ampicillin in high rate (91.66%) than Ceftazidime and Tetracyclin rate (75,83.33) on thin while be sensitive antibiotic cefotaxime rate (75%) .while pseudomonas was high resistance to Ampcillin ,Geftazidime in the rate (0.06%,0.04%) and less sensitive for Gefotaxime in the rate (0.02%)comparing with other antibiotics (table 3) modern study showed that the best antibiotic in it effect on staph aureus and staph epidermis is streptomycin .

(David et al .,2001) pointed to increases of resistance of gram negative bacteria Especially Intestinal bacteria family that because the carried enzymes on the plasmid and pointed that Escherichia coli contain a plasmid codes for producing Betalactafes A wide spectrum responsible for sephalosporate resistance and produces of this enzymes from important function of gram negative bacteria who resist this antibiotics .As the random use of this antibiotics Streptomycin ,Tetracycline ,Ampicillin and Ceftazidime increases of bacteria resistance for them and also leads to mutations or bacteria containing a plasmid carries resistance genes (Gallotto et al ,.1987).

Percentage	Type Of Bacteria	Numer Of Samples	Tybe 0f Samples
0.4 %	Staphylococcus E.coli Candida	20	Urine
0.1 %	Staph E.Coli Pseudomonas	5	Ear swap
0.04 %	E.coli	2	Stool
0.1 %	Staph E.Coli	5	Viginal swap
0.28 %	Staph Step Candida E.Coli Pseudomonas	14	Throat swap
0.08 %	Staph	4	Skin swap

(table 1 Representing the number of isolated samples and its types for different infections.

Percentage	Number	Type of bacteria
0.5%	25	Staph aurous
0.24%	12	E.coli
0.08%	4	Strep
0.12%	6	Pseudomonas
0.06%	3	Candida

(table 2) bacteria types from different infection .

Candida		Pseudomonas		***Streptococcus Pyogen***		***E-coli***		Staph epidemis		Staphlococcus aureus		***Type of Antibiotic***
						0.04%	2					Ciprofloxan

						0.02%	1			0.04%	2	Tetracycclin
0.04%	2			0.04%	**2**	**0.06%**	3			0.1%	5	Streptomycin
								0.02%	1	0.08%	4	Rifmycin
								0.04%	2	0.1%	5	neomycin
0.02%	1	0.04%	2			**o.o8%**	4	0.06%	3			Ceftazidime
		0.06%	3	o.o2%	**1**	**0.04%**	2			0.06%	3	Ampicillin
		o.o2%	1	o.o2%	**1**							Cefotaxime
												trimethprim

(Table 3) bacteria resistance for antibiotics .

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