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Abstract

This research aim to study antibacterial activity of vinegar only and a mixture of vinegar and honey against some pathogenic bacteria. The results showed that mixture of vinegar and honey was more active than the vinegar only, and it was found that there were differences in sensitivity of studied bacteria towards that different lightening. *Staphylococcus epidermidis* was the most sensitive to both concentrated 50/50, 25/75 it was shown the superiority of that mixture of vinegar and honey activity upon some of those antibiotics according to the type of studied bacteria, which may indicate the capability of using this mixture of vinegar and honey to control pathogens which are sensitive to it.

Staphylococcus epidermidis

75/25, 50/50

				:
	Vinegar			
1864				Vinaigre
	CH ₃ COOH	acetic acid	.(1)	
			/	60,05
	Acetobacter			
			...	
			.(4,3 2 1)	
			.(2,5)	
	peroxidase	catalase,	invertase	amylase
		.(6) C	B ₅ B ₃ B ₂ B ₁	Lipase
				(H ₂ O ₂)
				.(8,7,6,9,10,11)



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(1)

Staphylococcus aureus, Staphylococcus epidermidis, Streptococcus faecalis, Escherichia coli, Klebsiella pneumoniae, Proteus mirabilis, Pseudomonas aeruginosa

/ /

.(13 12)

: (2)

- .%5-4 •
- .%6 •
- .%5 •
- .%5 •
- .%6-4 () •

: (3)

(4)

- CPR Ciprofloxacin
- CFM Cefixime
- RA Rifampicin
- TE Tetracyclin
- S Streptomycin
- CL Cephalexin
- CX Cloxacillin



(BIOANAL YSE LTD Ankara TURKEY)

:
: (5
0.1
(6,5) 10
(1966) Bauer (14)
. (15)
: (/) /
: 25/75 .
= A
= B
= C
= D
() = E
50/50 .
= F
= G
= H
= I
() = J
: 75/25 .
= K
= L
= M
= N
() = O

		4-5	
	37	Nutrient Broth	
(3)			18
	0.1	/ 10 ⁸	
L		Nutrient agar	
		30 ° 37	
		24	37
		(16)	
			(1)
		<i>pseudomonas aeruginosa</i>	<i>Staphylococcus aureus</i>
		<i>Staphylococcus epidermidis</i>	(1)
	12		
15		<i>Streptococcus faecalis</i>	
		<i>Escherichia coli</i>	
		<i>Klebsiella pneumonia</i>	11
	(2)	21	
		<i>Proteus mirabilis</i>	
			15

:(1)

	()				
	1	2	3	4	5
<i>Staphylococcus aureus</i>	R	R	R	R	R
<i>Staphylococcus epidermidis</i>	11	11	12	10	R
<i>Streptosoccus faecalis</i>	13	R	15	8	10
<i>Escherichia coli</i>	7	8	7	8	11
<i>Klebsiella pneumoniae</i>	7	R	R	R	21
<i>Proteus mirabilis</i>	15	R	R	8	10
<i>Pseudomonas aeruginosa</i>	R	R	R	R	R

%5-4 -1
 %6 -2
 %5 -3
 %5 -4
 %6.4 () -5
 -
 Resistant = R

(pH)

dissociation coefficient

denaturation

()

.(19 18 17)

25/75

(2)

75/25

50/50

:(2)

	(:) /
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	25/75					50/50					75/25				
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
<i>Staph. aureus</i>	7	R	R	8	8	10	7	10	11	9	20	18	20	20	20
<i>Staph. epidermidis</i>	30	25	25	21	25										
<i>Strept. faecalis</i>	7	R	10	10	10	7	7	7	7	7	8	7	7	7	8
<i>E. coli</i>	7	8	8	7	7	7	R	R	R	7	7	7	7	7	15
<i>Kl. pneumoniae</i>	10	13	R	12	12	23	12	16	20	13	25	25	30	25	20
<i>Pr. mirabilis</i>	20	R	20	20	19	25	20	21	18	22	25	15	24	25	15
<i>P. aeruginosa</i>	7	7	7	10	R	20	7	7	R	7	20	21	10	25	25

-
Resistant =R

25/75 /

D 8 C B *Staph. aureus*

Staph. epidermidis .E

Strept. faecalis A 30

.B E D C

. C B 8 *E.coli*

.B 13 C *kl.pneumoniae*

20 (3) B *Pr.mirabilis*

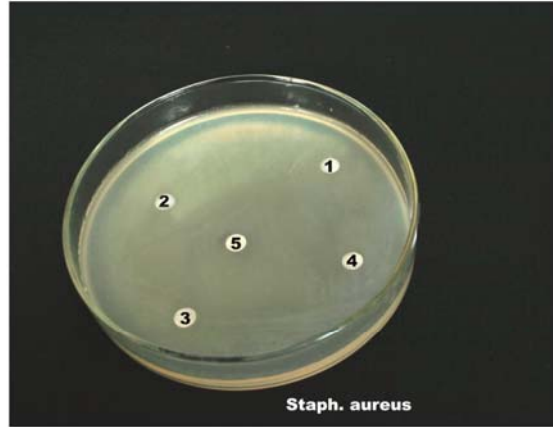
.E *P. aeruginos* . D C A

50/50

.I *Staph.aureus*

Staph. epidermidis

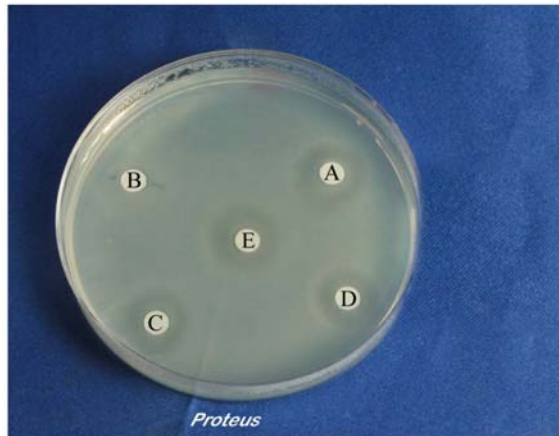
7 *Strept.faecalis* .



صورة 1: توضيح حساسية جرثومة *Staph. aureus*
تجاه الخل



صورة 2: توضيح حساسية جرثومة *Kl. pneumoniae*
تجاه الخل



صورة 3: توضيح حساسية جرثومة *Pr. mirabilis*
تجاه خليط الخل/العسل 25/75

.I H G *E.coli* .
Pr. . F 23 *Kl.pneumoniae*
P.aeruginosa .F 25 *mirabilis*
 . I
 75/25
 20 *Staph.aureus*
Staph. epidermidis .O N M K
 .N M L *Strept. faecalis*
kl.pneumoniae .O 15 *E. coli*
Pr.mirabilis .M 30
 25 *P.aeruginosa* .N K 25
 .O N

(PH 3,8)

.(21 20) (H₂O₂)

39 Ciprofloxacin (22)
 .(4) (3) *Kl.pneumoniae* *E. coli*

:3

	S	I	R	<i>E. coli</i>	<i>Kl.pneumoniae</i>	<i>Pr.mirabilis</i>
CRP	≥21	16-20	≤15	(S)39	(S)39	(S)36
CFM	≥23	15-22	<14	(R)8	(R)5	(R)5
RA	≥20	17-19	<16	(R)10	(R)10	(R)10
TE	≥19	15-18	≤14	(S)25	(S)26	(S)23
S	>19	17-18	<16	(I)17	(S)20	(S)20

S=Susceptible I=Intermediate R=Resistant

:4

المضاد الحيوي	S	I	R	<i>Strept. Faecalis</i>	<i>Staph. epidermidis</i>
CRP	≥21	16-20	≤15	(S)39	(S)35
TE	≥19	15-18	<14	(S)28	(R)14
S	>19	17-18	<16	(S)19	(S)19
CL	≥18	15-17	<14	(R)11	(R) 10
CX	>11	9-10	<8	(R)6	(S)22

Pr.mirabilis

Strept.faecalis 36 Ciprofloxacin

Ciprofloxacin *Staph. epidermidis*

35 39

Streptomycin

Rifampicin Cefixime

Ciprofloxacin 25/75

50/50 (2) *Staph. epidermidis*

Cloxacillin Cephalexin Streptomycin

Staph. epidermidis Ciprofloxacin

(2)

75/25

(2) *Kl.pneumoniae* Tetracyclin

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.Althea rosa

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