

(2008/1/21 2007/5/7)

(110)

.%100

.*Yersinia enterocolitica* (%3.1) (% 80)

(%1.7) *Listeria monocytogenes* (%16.66)

.(%1.7) *Brucella melitensis*

L. monocytogenes

B. melitensis

Y. enterocolitica

Microbail Contamination of White Soft Local Cheese in Ninavah Governorate

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ABSTRACT

The study included the isolation and identification of the contaminating bacteria of the local cheese in Mosul as (110) samples of cheese were collected from the local markets. The study showed that the contamination rate was (100%) most of them were

related to enterobacteriaceae which represent (80%). (16.66%) were related to Staphylococci, while *Listeria monocytogenes* represent (1.7%), *Brucella melitensis* forming (1.7%), among the enterobacteriaceae were (3.1%) *Yersinia enterocolitica*. The ability of some pathogenic bacteria transmitted through contaminated cheese to produce enzymes as Lecithinase, Lipase and Protease. The results showed the ability of *L. monocytogenes* to produce Lecithinase, Lipase and Protease. *Br. Melitensis* isolates were unable to produce them, *Y. enterocolitica* isolates were capable of producing Lipase only.

| | | |
|----------|-------------------------------|--------------------------------|
| | <i>Listeria monocytogenes</i> | (Rampling, 1996) |
| – | .%30 | |
| | | <i>Brucella melitensis</i> |
| | <i>E. coli</i> : 0157: H7 | |
| | .(IFST, 1996) | <i>Yersinia enterocolitica</i> |
| | | : |
| | | .1 |
| Protease | | .2 |
| | | Lecithenase Lipase |
| | | : |
| | | .1 |
| | | (110) |
| | | 2005 – |

.....

: .2

(1)
) (10)
 (%2 (1-10)
 : (Harrigan and McCance, 1976) .

.Blood agar -

.PALCAM selective Agar -

.Brucella agar -

Yersinia -

(Lovett and Hitchins, 1987 ; Beumer et al., 1997 ; Curtis et al., 1989 and Van Netten et al., 1989)

: .3

:
 : -

.(Prescott et al., 1999)

.Oxidase Test .1

.2

.IMViC .3

.SIM .4

.TSI .5

.Urease .6

.7

.Carbohydrates fermentation .8

.9

.10

.11

.Coagulase Test .12

.13

:

(Koneman et al., 1997 , Prescott et al., 1999)

:

.4

(C -) .1

.2

: .1

(110)

2005

.%100

98

120

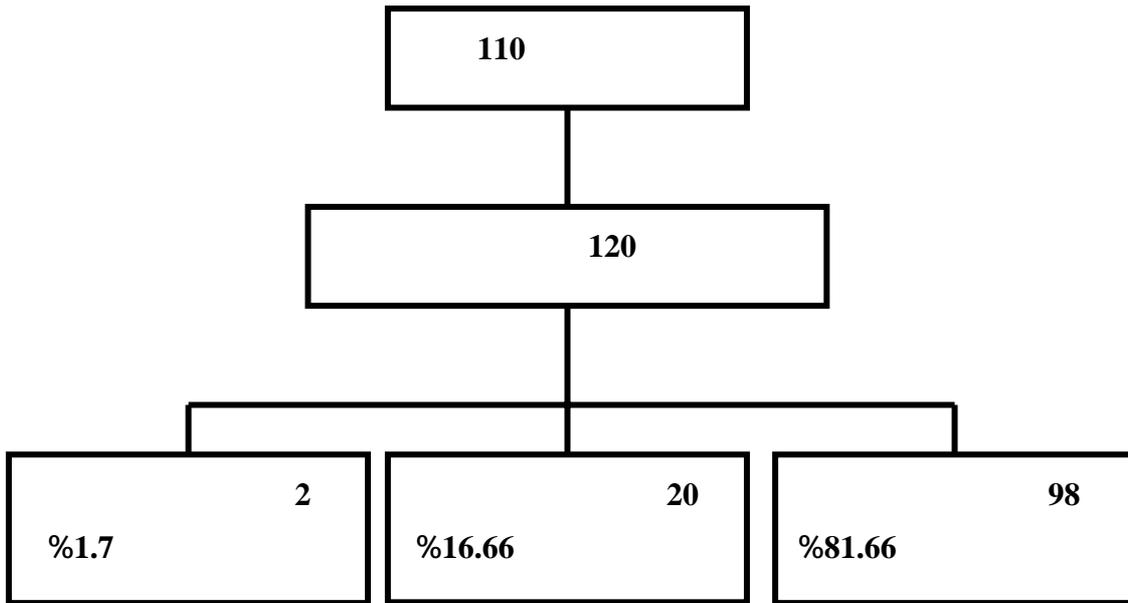
.%16.66

20 %81.66

%1.7

.(1)

.....



:1

:1

| % | | |
|-------|----|--------------------------------|
| 14.16 | 17 | <i>Staphylococcus aureus</i> |
| 12.5 | 15 | <i>Escherichia coli</i> |
| 10.8 | 13 | <i>Enterobacter spp.</i> |
| 8.33 | 10 | <i>Citrobacter spp.</i> |
| 7.5 | 9 | <i>Yersinia spp.</i> |
| 6.66 | 8 | <i>Budvicia spp.</i> |
| 5.83 | 7 | <i>Providencia spp.</i> |
| 5 | 6 | <i>Klebsiella spp.</i> |
| 5 | 6 | <i>Escherichia spp.</i> |
| 5 | 6 | <i>Salmonella spp.</i> |
| 4.16 | 5 | <i>Shigella spp.</i> |
| 2.5 | 3 | <i>Serratia spp.</i> |
| 2.5 | 3 | <i>Staphylococcus spp.</i> |
| 2.5 | 3 | <i>Yersinia enterocolitica</i> |
| 1.7 | 2 | <i>Morganella spp.</i> |
| 1.7 | 2 | <i>Edwardsiella spp.</i> |
| 1.7 | 2 | <i>Brucella melitensis</i> |
| 1.7 | 2 | <i>Listeria monocytogenes</i> |
| 0.83 | 1 | <i>Proteus spp.</i> |

Listeria monocytogenes .2

L. monocytogenes

Holt et al., 1994; Koneman et al., 1997;)

.(Bennett and Weaver, 2001

:

24 *L. monocytogenes*

°37

.

. °37

24

(2) (1)



: 2

L. monocytogenes

PALCAM Agar



:1

L. monocytogenes

Oxford

.Listeria Selective Medium

:

.(Marth and Steel, 2001)

T V Y

.....

:

. *L. monocytogenes*

: 2

| | |
|-------|-------|
| | |
| + | 25 |
| + | |
| + | |
| - | |
| IMViC | |
| - | I .1 |
| + | MR .2 |
| + | VP .3 |
| - | C .4 |
| - | |
| + | |
| + | |
| + | |
| - | |
| - | |
| + | |
| + | |
| + | CAMP |
| + | |
| - | H2S |

: +

: -

Brucella melitensis

.3

B. melitensis

(Koneman et al., 1997 ; Holt et al., 1994)

(3)

Brucella melitensis

: 3

| | |
|---|------------------------|
| | |
| + | |
| + | |
| - | |
| - | H ₂ S |
| - | CO ₂ |
| | IMViC |
| - | I -1 |
| - | MR -2 |
| - | VP -3 |
| - | -4 |
| + | 1/25.000 Basic Fuchsin |
| + | 1/50.000 Thionin |
| - | |
| - | |
| - | |

: +

: -

:

(5-2)

B. melitensis

°37

:

(0.7-0.5)

(1.5-0.6)

Coccobcilli

:Yersinia enterocolitica

.4

Y. enterocolitica

(4)

:
(Koneman et al., 1997)

.Yersinia enterocolitica

: 4

| | | |
|------|--------|----|
| | | |
| - ve | °37 | -1 |
| + ve | °28-25 | |
| | IMViC | -2 |
| d | | |
| + | | |
| + | | |
| - | | |
| + | | -3 |
| - | | -4 |
| - | | -5 |
| | | |
| - | | - |
| - | | - |
| + | | - |
| + | | -6 |

:d , :- , :+

:

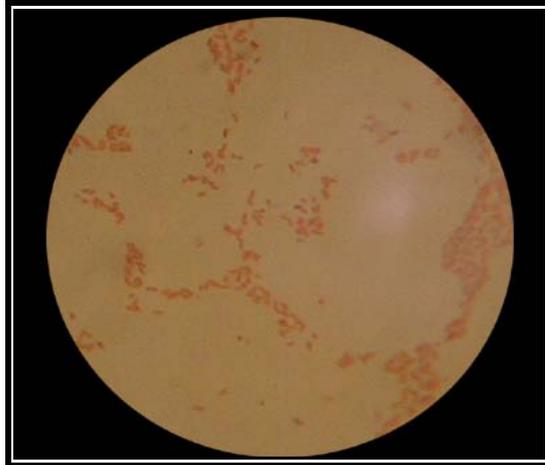
°37

(48)

Y. enterocolitica

(2-1)

:



Y. enterocolitica

: 3

:

.5

L. monocytogenes

Y. enterocolitica

B. melitensis

L. monocytogenes

()

Y. enterocolitica

B. melitensis

(1)

.....

120 17 *Staphylococcus aureus*
%14.16

(1986) Mohammed Abbar

(1991) Nour Vaishnavi
60 40 (2003)
.%70
%68

(2001)

Staph. aureus

Escherichia coli

(1988) *E. coli* %12.5 15
E. coli %40.5

60 42 (2003)
100 59 %70

– *E. coli*

(1982) Marth Kornacki

6 %5 *Salmonella* spp.
%15 (1988) 120

Enterobacteriaceae

: (1)
%4.16 *Shigella*

Proteus Serratia Enterobacter Klebsiella :

%(8.33 0.83 2.5 10.8 5) *Citrobacter*

endotoxin

Morganella Providencia Budvicia (Forbes et al., 2002)

%(7.5 1.7 1.7 5.83 6.66) *Yersinia Edwardsiella*

(1)

(%1.7) *L. monocytogenes*

β / ($10^{10} \times 1.6 - 10^8 \times 2$)

L. monocytogenes

D – xylose

L. monocytogenes

%7.6 (1990)

(2002) Ibrahim (2005) %10.68

L. monocytogenes %4 %6

L. innocua %2

B. melitensis

110 (1) %(1.7)

(2004)

.%2.7 37

%60.6 (1991)

(60) (26)

%43

(2003)

(Shaarbaaf and Yahya, 1988)

B. melitensis

(Araj, 1990)

Y. enterocolitica 3

(1988) (1) %2.5

%7 *Yersinia*

Y. enterocolitica

.....

% 36.6-5.5 (1987) Tibana (1994) Dos Reis Tassinari
 .(1992) Hamama
 % 81.4-36 (1997) Desmasures
Y. enterocolitica
 °71.8
 .(Toora et al., 1992; Francis et al., 1980) 18

:

L. monocytogenes

.(1992) Vazquez
L. monocytogenes
 .(1988) Feresu Jones ()

B. melitensis

Holt
 .(2002) Forbes (1994)

Y. enterocolitica

Aleksic (1980) Bercovier
 (1994) Holt (1987)

.1988

.2005

Listeria monocytogenes

Brucella melitensis

.2004

.2003

.1991

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