CONTENTS

LIST OF ABBREVIATIONS

AIDS	: Acquired Immuno Deficiency Syndrome
CFU	: Colony Forming Unit
DPC	: Direct Plate Count
FSIS	: Food Safety and Administration
g	: gram
KIA	: Kliger Iron Agar test
L.	: Listeria
L.E.	: Listeria enrichment broth
LPM	: Lithium chloride-phenylethanol-moxalactam
LRB	: Listeria repair broth
LSA	: Listeria selective agar
mg	: Milligrame
MOX	: Modified Oxford Agar
MPN	: Most-Probable-Number
MVJ	: Modified Vogel Jhonson Agar
NGFIS	: Netherlands Government Food Inspection Service
r.p.m.	: Revolution per minute
Spp.	: Species
TAMC	: Total aerobic mesophilic count
TSA	: Trypticase Soy Agar
TSP	: Trisodium phosphate
USDA	: United States Department of Agriculture
UVM	: University of Vermont Medium
YE	: Yeast Extract
≥	: Equal to or more than
<	: Less than
>	: More than

CONCLUSION AND RECOMMENDATIONS

The results presented in this study provide evidence that Listeria species could be contaminated raw chicken; Sudan ducks; raw pekin ducks and chicken products (sausage, burger and luncheon) including L. monocytogenes, L. innocuos, L. grayi, L. welshimeri, L. murrayi and L. ivanovi in various percentages which may constitute a great public health hazard.

Raw pekin ducks were showed highest incidence of Listeria spp. among raw examined sample, meanwhile sausage showed the highest one among chicken products.

All isolated Listeria monocytogenes were pathogenic to white mice and 50% of isolated Listeria monocytogenes were identified serotype 4b.

Tri sodium phosphat dipping was found to be effective in inhibiting the growth of Listeria monocytogenes.

The following suggestions should be considered to safeguard consumers from being infected with Listeria monocytogenes:

(1) Monitoring/verification program for Listeria monocytogenes in chicken meat and its products are necessary.

(2) Measures to exert control over Listeria contamination of the processing plant and its impact upon subsequent finished product contamination should be developed.

(3) Implementation of good manufacturing practices, standard sanitation operating procedures and hazard analysis and critical control points (HACCP) program from farm to consumers.

(4) Local regulation and specified bacteriological standards should be postulated.

(5) Education programs and Health education programs should be imposed for those concerned in production and handling.

(6) Application of Trisodium phosphate on poultry carcass decontamination process by manual and industrial methods are necessary to add a degree of safety regarding the food-borne Listeriosis.

SUMMARY

A total of 375 samples including 100 raw chicken samples (25 each of skin, gizzard, liver and heart); 100 raw Sudan ducks samples (25 each of skin, gizzard, liver and heart) and 100 samples of raw pekin duck samples (including 25 each of skin, gizzard, liver and heart) were randomly collected from various poultry shops of different sanitation level at Mansoura city and in addition to 75 samples of poultry products (25 each of sausage, burger and luncheon) were also collected from different localities.

The collected samples were transferred to the laboratory with a minimum of delay after their identification and packing in a sterile container where they were screened for the presence of Listeria as well as identification of existed Listeria species.

The results showed that the incidence of Listeria species were 18%, 22%, 27% and 28% of the examined chicken, sudan ducks, pekin ducks and chicken products, meanwhile Listeria monocytogenes were isolated from 4%, 6%, 7% and 6.6% of examined raw chicken, sudan ducks, pekin ducks and chicken products respectively.

Other Listeria species were also isolated from the examined samples including L. innocua (11.42%), L. grayi (6.93%), L. murryi (3.2%), L. wellshemeri (1.9%) and L. ivanovi (2.1%).

50% of the isolated Listeria monocytogenes from examined samples were identified serologically to be relates to serovar 4b.

The results of pathogenicity test of the isolated Listeria monocytogenes revealed 100% death of inoculated white mice at 3rd and 4th day and the organism was reisolated from all dead white mice.

Dipping of chicken carcasses with T. Sp. 12% for 15 minutes had marked effect on the population of L. monocytogenes in which their count decreased from 6.6×10^6 cfu/cm^2 before treatment by dipping to 6.5 x 103 efu/cm^2.

The public health importance of Listeria and the sanitary measures for improving poultry and poultry products were discussed.