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ANTIMICROBIAL SUSCEPTIBILITY TO *SALMONELLA* AND *E.COLI* ISOLATES ORIGINATED FROM BROILER CHICKENS IN LUXOR GOVERNORATE

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Received: 31 March 2018; **Accepted:** 31 April 2018

ABSTRACT

Salmonellosis and colibacillosis are continuing serious problems facing poultry industry in Egypt. In this study, 300 different pooled broiler chickens organs samples as (trachea, lung, liver, heart, spleen, unabsorbed yolk sac and intestine) were collected from different apparently healthy and sick broiler flocks in different localities of Luxor governorate during (2015 and 2016). The examined broiler flocks were suffering from various health problems developed during the final two weeks of the growing period, resulting in increased mortality and condemnation losses. Bacterial isolation was done by using standard method of isolation and identification. The results showed that 92 out of 300 broiler organs samples were positive for *Salmonella* spp. (30.66%) while 161 out of 300 were *E.coli* positive (53.66%). The present study showed that the main *Salmonella* spp. isolates were (*S*. Typhimurium (24%), the both of *S*. Enteritidis, *S*. Anatum were (21.7%) and *S*. Kentucky (19.56%), *S*. Bargny and *S*. Molade (3.26%) then *S*. Newport, *S*. Ingada and *S*. Agona their percentage were (2.17%) respectively, while 8 serotypes of *E.coli* were obtained with the following serological identification O78 (44%), O1:H7 (17.39%), O91:H21 (15.52%), O128:H2 (13%) and other *E.coli* serotypes were identified as (O2:H6, O26:H11, O55:H7, O146:H21) their percentage was (1:3%). Bacterial strains were tested against 21 antibacterial agents using the standard disk diffusion method on Muller and Hinton's Agar medium. The results were recorded that most of *Salmonella* spp were highly resistant to (Oxytetracycline, Doxycycline, Tetracycline then Enrofloxacin, Sulphamethoxazole) and were sensitive to (Gentamycin, colistinsulphate and Ceftiofur). While most of *E.coli* isolates were resistant to Neomycin and Streptomycin and were sensitive to Ceftiofur then Colistinsulphate.

Key Words: Broilers, *Salmonella*, *E.Coli*, Infection, Serotyping multi antibiotic resistant.

INTRODUCTION

Avian pathogenic *Escherichia coli* (APEC) is the major cause of Colibacillosis in poultry (Solà-Ginés *et al.,* 2012). It is a common world wide disease in poultry flocks especially in the intensive farming system (Chansiripornchai., 2009) and Gamal *et al*., (2017) examined 200 broiler chickens and found 73 (36.5%) were infected with *E.coli*, strains (O78, O2, and O1) are the most prevalent serotypes detected. It affects birds of all ages, spread into various internal organs and cause Colibacillosis characterized by systemic fatal disease (De Carli *et al.,* 2015). Clinically *E. coli* infected birds revealed sudden death to birds being off-color with their necks pulled into their bodies (Johnston., 2007). On the other hand, *Salmonella* infection caused by avariety of *Salmonella* species is one of the most important bacterial diseases in poultry causing heavy economic losses through mortality and reduced production (Haider *et al.,* 2004). Salmonellosis is associated with massive public health and economic losses globally. It is estimated to cost poultry farmers in the United States of America up to US$ 114 million annually. Attempts to develop effective vaccines and eradicate *Salmonella* entericaserovar Enteritidis (*S*. Enteritidis) from henhouses are undermined by serious limitations (Charles and Takayuki., 2010). The genus *Salmonella*, a member of the family Enterobacteriaceae, is a facultative intracellular pathogen that is capable of causing different disease syndromes in a wide range of hosts. To date, more than 2,541 serovars of *Salmonella* have been described (National *Salmonella* Reference Laboratory, Galway, Ireland), with new serovars being identified every year. *Salmonella* Typhimurium and *Salmonella* Enteritidis are the most frequently isolated serovars throughout the world, leading to severe economic losses (Brenner *et al*., 2000).

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- **The aims of the present study were:**

i. Isolation and Identification of *Salmonella*, *E. coli* causing losses in broiler farms at Luxor Governorate.

ii. Performing of Antibiotic sensitivity test.

MATERIALS AND METHODS

1. Fieldsamples

Three hundred (n=300) different pooled broiler chickens organs samples as (trachea, lung, liver, heart, spleen, unabsorbed yolk sac and intestine) were collected as 5 chickens collected their organs as one pooled sample from hundred commercial broiler flocks (1-5 weeks of age) in different localities of Luxor Governorate during the period (January 2015 to December 2016) suspected of having Salmonellosis and Colibacillosis. Clinically a variable number of sick broilers showed (anorexia, difficult respiration, brownish diarrhea, dehydration, weakness, chalky pasty vent, lameness) and post mortem examination was performed on infected and freshly dead birds which succumbed to the diseases after onset of mortalities on the examined farm, gross lesions were recorded from birds with Colibacillosis and Salmonellosis as (septicemia, airsacculitis, polyserositis, inflammation of the intestinal mucosa, necrotic foci on liver or congested liver, kidney and lung, peritonitis, perihepatitis, yolk sac infection, typhilitis, pneumonia, and enteritis). The fresh pooled organs samples (about 25g) were collected aseptically and samples were labeled and placed in sterile containers for bacteriological examination as soon aspossible.

2. Bacterialisolation

2.1. Isolation and identification of *Salmonella*:

- All the collected samples were processed for *Salmonella* isolation according to (Ahmed *et al.*, 2016) by ISO/IEC 6579/2002 /cor.1:2004.

2.2. Isolation and identification of *E. coli* isolates:

- All the samples were processed for *E.coli* isolation according to (Quinn *et al.*, 2002) by Laboratory manual for isolation and identification of avian pathogen 1998/Amed 2008.

- Biochemical identification for isolated bacteria was done according to (Holmes *et al.*, 1978) by using Api 20E system.

3. Serologicaltest

Serotyping of each isolate was done at Reference Laboratory for Veterinary Quality Control on Poultry production (RLQP), Animal Health Institute, Luxor, Egypt. according to Kauffman – White scheme (Kauffman., 1974) for *Salmonella* by determination of Somatic (O) and flagellar (H) antigensusing *Salmonella* antiserum and Kok *et al.* (1996) for *E.coli* serological identification by using rapid diagnostic *E.coli* antisera sets (DENKA SEIKEN Co., Japan) for diagnosis of the Enteropathogenic types.

4. Sensitivity test

Salmonella and *E. coli* isolates were tested for their antimicrobial resistance/susceptibility pattern by disc diffusion technique according to Clinical and Laboratory Standards Institute (CLSI., 2008). This test was done by using Kirby-Bauer disk diffusion test through using 21 antibiotics as Penicillin G(P 10ug), Ampicillin (Am 10ug), Amoxicillin (Ax 25ug), Oxacillin (Ox 1ug), Nitrofurantoin (F 300ug), Chloramphenicol (C 30ug), Colistinsulphate (Ct 10ug), Sulphamethoxazole (Sxt 25ug), Flumeqine (Ub 30ug), Enrofloxacin (Enr 5ug), Norfloxacin (Nor 10ug), Ceftiofur (Cf), Levofloxacin (Levo), Ofloxacin (Ofx), Neomycin (N 30ug), Gentamycin (Cn 10ug), Lincomycin (L 2mcg), Streptomycin (S 10ug), Doxycycline (Do 30 ug), Tetracycline (T 30ug), Oxytetracycline (Ot 30 ug) and Antibiotic resistance were determined by comparison of the diameter of the zones of complete inhibition with the zone size interpretation chart provided by the supplier and was graded as susceptible (S), intermediate (I), and resistant (R).

RESULTS

- The result showed that among 300 pooled broiler organs samples, 92 (30.66%), and 161 (53.66%) were positive for *Salmonella* and *E.coli* isolation respectively (Table :1), also the result expressed that among 300 pooled broiler organs samples, the bacterial isolates from broilers including 9 *Salmonella* and 8 *E.coli* serogroups were identified serologically (Table:2,3).

- Serological identification of the *Salmonella* spp isolates were revealed *S*. Typhimurium (24%), *S*. Enteritidis and *S*. Anatum were (21.7%), *S*. Kentukey (19.56%), *S*. Bargny and *S*. Molade (3.26%) then *S*. Newport, *S*. Ingada and *S*. Agona their percentage were (2.17%) respectively, while the results showed 8 strains of *E.coli* were O78 (44%), O1:H7(17.39%), O91:H21(15.52%), O128:H2 (13%) and other *E. coli* serogroups (O2:H6, O26:H11, O55:H7,O146:H21) were obtained with percentage varies from (1:3%) (Fig 1, 2).

- The result of sensitivity test revealed that most of *Salmonella* spp were highly resistant to Oxytetracycline, Doxycycline, Tetracycline then Enrofloxacin, Sulphamethoxazole and were sensitive to Gentamycin, Colistinsulphate and Ceftiofur. While most of *E. coli* isolates were resistant to Neomycin and Streptomycin and were sensitive to Ceftiofur then Colistinsulphate (Table 4,5).

Table 1: Shows number and percentage of bacterial isolation of broilers.

Samples number and % of bacteriaisolates	Chickens spp (2015, 2016) years		
	Cup, Ross, Hubbard Chicken	Sasso Chicken	Spp of Chicken
Total No of samples	200	100	300
No. Positive samples for *Salmonella*	50	42	92
% of *Salmonella* Isolates	25%	42%	30.66%
No. Positive samples for *E. coli*	123	38	161
%of *E. coli* isolates	61.5%	38%	53.66%

Table 2: Serological identification of *E.coli*.

Serial No.	Identified bacterium	Serological diagnosis	Serial No.	Identified bacterium	Serological diagnosis
1	*E. coli*	O1: H7	5	*E. coli*	O78
2	*E. coli*	O2: H6	6	*E. coli*	O91: H21
3	*E. coli*	O26: H11	7	*E. coli*	O128:H2
4	*E. coli*	O55 : H7	8	*E. coli*	O146: H21

Table 3: Serological typing of isolated *Salmonella*.

Serial No.	Identified strains	Group	Antigenic structure	
			O	H
1	*S*. Typhimurium	B	1,4,5,12	i : 1,2
2	*S*. Inganda	C1	6,7	Z10 : 1,5
3	*S*. Kentucky	C3	8,20	i : Z6
4	*S*. Enteritidis	D1	1,9,12	g,m
5	*S*. Bargny	C3	8,20	i : 1,5
6	*S*. Molade	C2	8,20	Z10 : Z6
7	*S*. Anatum	E1	3,10	e,h;1,2
8	*S*. Newport	C2	6,8	e,h;1,2
9	*S*. Agona	B	1,4(5);12	f,g,s;(1,2)

Table 4: Result of sensitivity test for *Salmonella* spp.

***Salmonella* isolates**	***Antibiotics**		
	S	**I**	**R**
***S*. Typhimurium**	**Cn, N, F, Ct, Levo, Cf,**	**Ofx**	**Do, Ot, T, L, S , Ax, P, Am, Ox, Ub, Nor , Enr, C, Sxt**
***S*. Enteritidis**	**Cn, N, Do, Ot, T, P, Am, Ax, Ub, Enr, Nor, Ct, C, Levo, Cf**	**S, F, Ofx**	**L, Ox, Sxt**
***S*. Bargny**	**Cn, L, F, Ct, Cf, Ofx**	**N**	**Do, Ot, T, S, P, Am, Ax, Ox, F, Ub, Nor , Enr, C, Sxt, Levo**
***S*. Kentucky**	**Cn, Ct, Cf, Ofx**	**--**	**Do, Ot, T, L, N, S, Am, Ax, Ox, F, Ub, Nor, Enr, C, Sxt, P**
S. Inganda	**Cn, Ub, Enr, Nor , Sxt, Ofx, Cf, Ct**	**C**	**Do, Ot, T, L, N, S, P, Am, Ax, Ox, F, Sxt**
***S*. Molade**	**Cn, N, L, Ax, Nor, Enr, Sxt, Ct, C, Levo, Cf**	**P,Am,Ox, Ofx**	**Do, Ot, T, E, S, Ub**
***S*. Anatum**	**Cn, N, Ct, C, Sxt, Ofx, Cf**	**L, Levo**	**Do, Ot, T, L, S, P, Am, Ax, Ox, F, Ub, Nor , Enr,**
***S*. Newport**	**Cn, N, Ax, P, Am, Ct, C, Cf, Ofx, Levo**	**Sxt**	**Do, Ot, T, L, S , Ox, F, Ub, Nor, Enr**
***S*. Agona**	**Cn, N, L, C, Ct, Cf**	**-**	**Do, Ot, T, P, Am, Ax, Ox, F, Ub, Nor , Enr, Sxt, Levo, Ofx, S**
Remark	**- All *Salmonella* isolates sensitive to (Cn, Ct, Cf)** **- Most of *Salmonella* isolates were resistant to (Ot, Do, T, Sxt , Enr).**		

***Antibiotics**

Penicillin **G (P 10ug)**	Enrofloxacin **(Enr 5ug)**	Chloramphenicol **(C 30ug)**	Tetracycline **(T 30ug)**
Ampicillin **(Am 10ug)**	Norfloxacin **(Nor 10ug)**	Colistinsulphate **(Ct 10ug)**	Gentamycin **(Cn 10ug)**
Amoxicillin **(Ax 25ug)**	Flumeqine **(Ub 30ug)**	Sulphamethoxazole **(Sxt 25ug)**	Lincomycin **(L 2mcg)**
Oxacillin **(Ox 1ug)**	Nitrofurantoin **(F 300ug)**	Oxytetraycline **(Ot 30 ug)**	Streptomycin **(S 10ug)**
Neomycin **(N 30ug)**	Doxycycline **(Do 30 ug)**	Levofloxacin **(Levo)**	Ceftiofur **(Cf)**
Ofloxacin **(Ofx)**			

Table 5: Illustrate the result of sensitivity test for *E. coli* isolates.

***E. coli* Isolates**	***Antibiotics**		
	S	**I**	**R**
O78	**Cn, Do, Ot, T, P, F, Ub, Sxt, Ct, C, Levo, Cf**	**Ax,Nor,Enr**	**N, S, L, Am, Ox, Ofx**
O1:H7	**Cn, Ot, Nor, Enr, Sxt, Levo**	**T ,F , Ub ,C, Cf, Ofx**	**N, S, L, Do, P, Ax, Am, Ox, Ct**
O2:H6	**Do, F, Ub, Nor, Sxt, Ct, C, Cf, Ofx**	**Enr**	**Ot, T, Cn, N, L, S, Levo, P, Ax, Am, Ox**
O26:H11	**F,CF**	**Cn**	**Ot, T, Do, N, L, S, Levo, Ofx, P, Ax, Am, Ox, C, Sxt, Ct, Ub, Nor, Enr**
O55:H7	**Ub, Nor, Ct, Cf, Ofx**	**Enr**	**C, Sxt, Levo, Ot, T, Do, Cn, N, L, S, P, Ax, Am, Ox**
O91:H21	**F, Ct, Cf, Ofx**	**---**	**Ot, T, Do, Cn, N, L, S, ,Levo, P, Ax, Am, Ox, C, Sxt, Ub, Nor, Enr**
O128:H2	**Cn, Ub, C, Cf**	**F**	**Ot, T, Do, N, L,S, Levo, Ofx, P, Ax, Am, Ox, Ct, Sxt, Nor, Enr**
O146:H21	**F, Ct, Cf**	**Do, Ub, Nor, Enr, Levo**	**Ot, T, Cn, N, L, S, Ofx, P, Ax, Am, Ox, Sxt, C**
Remark	**- Most of *E.coli* isolates sensitive to (Ct,F)** **- All *E.coli* isolates resistant to (N, S) then Am, Ot, T, Ox, Ax, Do, Levo, Sxt, Cn,Ofx**		

***Antibiotics**

Penicillin **G (P 10ug)**	Enrofloxacin **(Enr 5ug)**	Chloramphenicol **(C 30ug)**	Tetracycline **(T 30ug)**
Ampicillin **(Am 10ug)**	Norfloxacin **(Nor 10ug)**	Colistinsulphate **(Ct 10ug)**	Gentamycin **(Cn 10ug)**
Amoxicillin **(Ax 25ug)**	Flumeqine **(Ub 30ug)**	Sulphamethoxazole **(Sxt 25ug)**	Lincomycin **(L 2mcg)**
Oxacillin **(Ox 1ug)**	Nitrofurantoin **(F 300ug)**	Oxytetraycline **(Ot 30 ug)**	Streptomycin **(S 10ug)**
Neomycin **(N 30ug)**	Doxycycline **(Do 30 ug)**	Levofloxacin **(Levo)**	Ceftiofur **(Cf)**
Ofloxacin **(Ofx)**			

Fig. (1): Shows the common *E.coli* isolates percentage isolated from broilers.

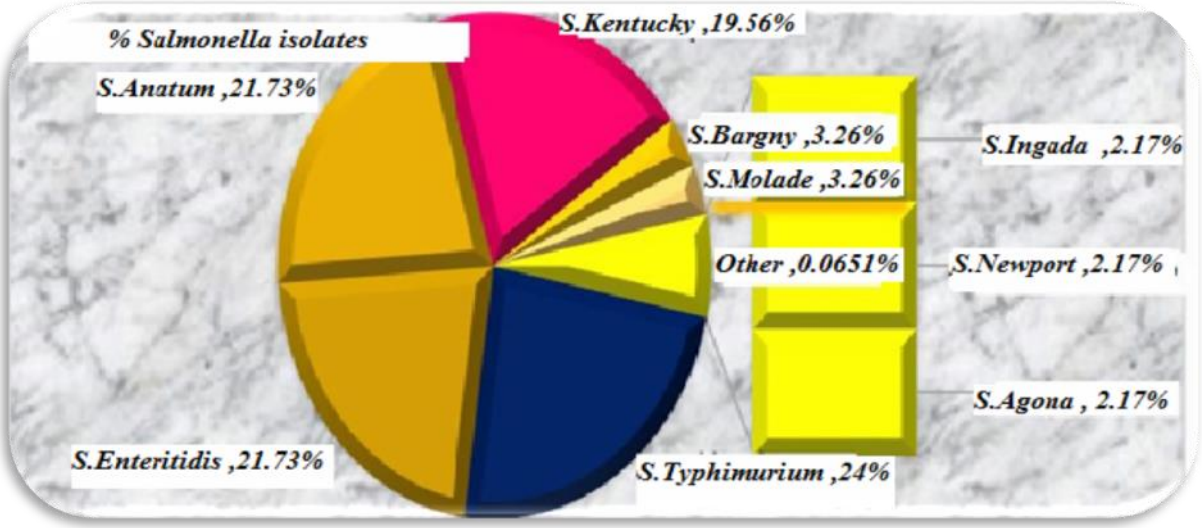

Fig. (2): Shows the common *Salmonella* isolates percentage isolated from broilers.

DISCUSSION

The current study showed high prevalence of Colibacillosis and Salmonellosis infections in (Ross, Cup, Hubbard and Sasso) broiler chickens during (2015-2016) at Luxor governorate, *E.coli* isolates were the predominant (53.66%) followed by *Salmonella* species (30.66%) these diseases are considered to be the major bacterial diseases in the poultry industry world-wide and have public health perspective. The same findings have been reported by Sheldon *et al.* (2006) who said the incidence level of *Salmonella* was (33%) isolated from broilers. Also supported by Duane and Donald., (2016) who recorded that from (2013 to 2014) recovery rates of *Salmonella* significantly decreased from 35% (39 isolates/112 samples) to 23% (27/116). And lowest rate was in layer (27.9%), the diagnosed diseases included Colibacillosis (7.4%), Salmonellosis (25.3%). While the prevalence was high recorded by Yang *et al.* (2011) who said a high rate of Salmonellosis (52.2%), in China and also Rahman *et al. (*2007) who said bacterial diseases Salmonellosis, Colibacillosis of group 2 (growers) were detected in (55.96%) and (11.93%) respectively.

The present study showed that *E.coli* was (53.66%) from broilers which is agree with the previous studies of (Tapan *et al.,* 2012) detected Colibacillosis from different farms suffered from yolk sac infection one day old till 4week (52.6%) and (Ahmed *et al.,* 2009) who examined 199 broiler chickens and found 104 (52.26%) were infected with *E.coli*, and also (Ashraf *et al.,* 2015) who showed the incidence of *E.coli* in on day old living diseased chicks was (58.3%) and in freshly dead ones (55%) in winter season. Also it was agree with (Heba *et al.,* 2012) who reported that chickens reared in Cairo had the highest rate

(58.7%). The result was gone in parallel with (Fatma *et al*., 2008) who recorded the isolation of *E. coli* (60 %) in broilers chickens. In contrast to our results the prevalence of Colibacillosis was 1.0% and 0.5% in 25-30 days old and 31-35 days old broiler as reported by Abdul Matin *et al.* (2017) as Colibacillosis is prevalent in the study areas which underscore the need of implementation of prevention and control measure against this disease.

Serological identification showed eight serotypes of *E. coli* (O78, O1:H7, O91:H21, 128:H2,O2:H6, O26:H11, O55:H7, O146:H21) were isolated which agree with (Rahman *et al.,* 2004) who reported avian Colibacillosis was frequently associated with *E. coli* strains of serotypes O78:K80, O1:K1 and O2:K1 and also agree with (Ashraf *et al.,* 2015) who reported the serogroups of *E. coli* that obtained by serological identification were (O128, O78, O111, O124, O55, O142, O114, O2 and O1).

The most prevalent strains of *E. coli* were (O78) with percentage (44%) followed by (O1:H7, O91:H21 and O128:H2) with percentages (17.39%), (15.52%) and (13%) respectively, other *E.coli* serovar their percentage varies from (1:3%). These result was in agreement with (Shaohua *et al*., 2005) who recorded twenty serotypes were identified, with (O78) being the most common (12%). Our results were supported by Heba *et al.,* (2012) who reported the most commonly isolated O groups in chickens were (O78, O158,O114,O91,O111,O125,O103,O142,O26, O44, O127 and O164). Also the same finding was reported with (Ashraf *et al.,* 2015) who said that *E. coli* serotypes had been previously isolated from chicken and newly hatched chicks in Egypt were (O78). On contrary to our results El-Sayed *et al.* (2015) were identified (O111, O55, O142 and O128). Reem., (2015) isolated (O142, O1, O55, O128 O114 and O124) from broiler.

Nine *Salmonella* serovars were identified, including (*S*. Typhimurium, *S*. Enteritidis, *S*. Anatum, *S*. Kentucky, *S*. Molade, *S*. Bargny, *S*. Newport, *S*. Agona and *S*. Ingada) the same finding by (Ahmed *et al.,* 2016) who said seven serovars of *Salmonella* were isolated from broiler chickens, including *S*. Typhimurium, which accounted for) 52.94% (of total *Salmonella* isolates. Other serotypes isolated (47.06%) were *S*. Enteritidis, *S*. Arizona, *S*. Kentucky, *S*. Montevideo, *S*. Birkenhead, and *S*. Virchow.

The predominant serovars identified in our study were *S*. Typhimurium (24%) then both of *S*. Enteritidis and *S*. Anatum were (21.7 %) and serovars as *S*. Kentucky (19.56%) then both of *S*. Bargny, *S*. Molade were (3.26%) and *S*. Newport, *S*. Ingada and *S*. Agona their percentages were (2.17%) and this agree with Moussa *et al.* (2010) reported In Saudi Arabia, *S*. Enteritidis and *S*. Typhimurium dominated among the recovered *Salmonella* serovars from chicken (55.56% and 22.22%, respectively) but very high *S*. enteritidis percentage compared with the present result but the prevalence was high and also agree with Michele *et al*. (2005) who reported that there were 961 isolates from chickens, 102 from turkeys, and 178 from and the 5 most common serovars were *S*. Typhimurium (23%), Heidelberg (13%), *S*. Hadar (9%), *S*. Kentucky (6%). The prevalence of *Salmonella* was very absolutely disagree with Yuka *et al. (*2003) who recorded the most prevalent serovars were *S*. Hadar, *S*. Infantis. This difference in serotypes of isolated *Salmonella* might be due to the locality and to the environmental condition of isolation.

In the present study showed the prevalence of *S*. enteritidis was (21.7%) isolated from broilers and this agree with (Noori and Alwan., 2016) who identified five serotypes were isolated from broiler including *S*. Infantis (0.54%), *S*. Vichow (0.13%), *S*. Enteritidis (0.21%), *S*. Hato (0.08%), *S*. Dublin (0.05%).

The prevalence of *Salmonella, E. coli* isolates in the current study was varied from certain studies, these may be due to differences in sampling way, methods of diagnosis, season of initiation Salmonellosis, Colibacillosis in live birds.

All *Salmonella* serovars were sensitive to (gentamycin, colistinsulphate and ceftiofur) and also in our results (66.66%) isolates were sensitive to neomycin except *S*. Kentucky, *S*. Inganda and *S*. Molade. This results were agree with Gomba *et al.,* (2016) who said all *Salmonella* isolates were susceptible to ceftiofur, cefoxitin, ceftriaxone, ciprofloxacin, nalidixic acid, gentamicin and also supported by (Lamas *et al.,* 2016) that found sixteen different serotypes were found, with *S*. Typhimurium and *S*. Arizonae were susceptible to cefotaxime, ciprofloxacin, gentamycin and neomycin. The result was disagree with (Diarrassouba *et al.,* 2007) indicated that multiple antibiotic-resistant commensal *E. coli* and *Salmonella* strains be found on commercial broiler chicken farms and among the 27 amoxicillin andceftiofur.

In the present study the most of *Salmonella* isolates were resistant to (oxytetracycline, doxycycline, tetracycline then enrofloxacin, sulphamethoxazole) this agree with (Lamas *et al*., 2016) who said the highest level of resistance was to sulfamethoxazole (40.29%), doxycycline (17.91%), and nalidixic acid (17.91%) in *Salmonella* spp. Also supported by (Moussa *et al.,* 2014) who observed in 33 (58.9%) of the *Salmonella* Kentucky isolates; 2 of these isolates were also resistant to chloramphenicol, streptomycin, sulphamethoxazole and tetracycline.

The majority of *E. coli* isolates (87.5%) were sensitive to ceftiofur, (62%) of isolates were sensitive to colistinsulphate, nitrofurantoin and (50%) were sensitive to flumequine. The results were agree with (Wang *et al.,* 2008) who said cefitiofur should be given by water to treat Colibacillosis in chickens, the suitable dosage was 100 mg/L and nearly similar to that obtained by Al-khalaf *et al.* (2009) who said *E. coli* isolates were highly sensitive to enrofloxacin and colistinsulphate.

All *E. coli* strains were resistant to neomycin and streptomycin, (87%) of isolated *E. coli* found resistance for ampicillin, (75%) of isolates gave resistance for oxacillin, amoxicillin, oxytetracycline and tetracycline, (62%) of isolates were resistant for sulphamethoxazole, doxycycline and levofloxacin, (50%) of isolates resistant for gentamycin and ofloxacin. The results were nearly similar to that obtained by (Abdul Matin *et al.,* 2017) who said the rate of *E. coli* resistance to ampicillin (92.7%), tetracycline (73.1%), streptomycin (80.8%) and neomycin (76.9%) and agree with (Mamza *et al*., 2010:, Ismail *et al*., 2014) who reported *E. coli* isolates from the tissues of apparently healthy and sick chickens showed resistance to ampicillin (66.7%), tetracycline (63.3%). The obtained result was agree with Fatma *et al.* (2008) who recorded 100% *E. coli* isolates were resistant to amoxicillin, tetracycline, oxytetracycline, and ampicillin. As well as agree with (Moon *et al*., 2011) who studied the actual frequency of antimicrobial resistance in fecal *Escherichia coli* isolated from. One hundred and nine E.coli isolates were higher resistant to ampicillin (68.8%) streptomycin (60.6%), ciprofloxacin (65.1%), and tetracycline (96.3%) and disagree with (Obeng *et al.,* 2012) who recorded *E. coli* isolates from healthy commercial and free-range chickens in Australia were resistant to ampicillin (26.7%), streptomycin (10.8%) and tetracycline (40.6%).

CONCLUSION

Detection of multidrug resistant *Salmonella* and *E coli* isolated from broiler chickens were recorded in this study these resistance may be due to the miss use of antimicrobial in poultry farm as well as the abuse of the drugs, the administration of antimicrobial drugs should be used according to sensitivity test on isolated organism. The use of the drug should be in recommended dose, time and route of administration.

ACKNOWLEDGEMENTS

First of all, my prayerful thanks go to "ALLAH" for everything, bestowed on me during my life.

I would like to express my deepest gratitude and appreciation to Dr/ Marwa Abdou for her support and assistance to me in the practical part of research. The support and encouragement received from all my colleagues at RLQP- Luxor branch. Finally, I dedicate this small piece of work to my dearest parents, husband, sisters and sons who always valued education above everything else. Thank You!

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قابلية مضادات الميكروبات لسلالات السالمونيلا والايشيريشيا كولاى المعزولة من دجاج التسمين بمحافظة الأقصر

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تعتبر البكتيريا المسببه للسالمونيلا والايشيريشيا كولاى من الامراض التى تؤثر اقتصاديا على الانتاج الداجنى في مصر كما انها منتشرة عالميا وتؤثر على الصحة العامة للانسان. وخلال هذه الدراسة تم فحص ٣٠٠ عينه من اعضاء دجاج التسمين النافق حديثا والمريض مثل (القصبة الهوائية - الرئتين -القلب – الكبد –الطحال – الكلية – الامعاء- كيس المح الغير ممتص) تم جمعها من مزارع دجاج تسمين مختلفة بمحافظه الأقصر كانت تعاني من تفاوت فى الاوزان ووفيات وذلك في الفترة من يناير ٢٠١٥م إلي ديسمبر 2016م وتم اخذ العينات من الانسجة الغير سليمة المختلفة فى (اللون والحجم والملمس) بالفحص الظاهرى للدجاج المصاب بعد عمل اختبار الصفة التشريحية لها ثم تم عزل ميكروب السالمونيلا والايشيريشيا كولاى بكتيريولوجيا باستخدام الطرق القياسية لعزل البكتيريا وتحديدها بواسطة اختبار الكيمياء الحيوية (API 20E) وتصنيف المعزولات باستخدام الامصال المضادة وقد وجدت الدراسة تسعة عترات مختلفة من السالمونيلا وهما (السالمونيلا تيفيميوريم وانترتيديس واناتم ومولاد وبارجنى ونيوبورت وانجادا واجونا) محدثة للمرض بنسبة (٣٠,٦٦%) وكان اكثرهم انتشارا بدجاج التسمين هى السالمونيلا تيفيميوريم بنسبة (٢٤%) كما وجد ثمانى انواع مختلفة للايشيريشيا كولاى محدثة للمرض بنسبة (٥٣,٦٦%) وهم (O146:H21,O55:H7,O26:H11,O2:H6,O128:H2,O91:H21,O1:H7,O78) وكان اكثرهم انتشارا هى عترة الايشيريشيا كولاى (او ٧٨) وجدت بنسبة (٤٤%) وتم عمل اختبار الحساسية لمعرفة انوع المضادات الحيوية المقاومة لكل نوع من البكتيريا المعزولة باستخدام ٢١ نوع من المضادات الحيوية ووجدت الدراسة ان معظم معزولات السالمونيلا مقاومة للدوكسى سيكللين والتتراسيكللين والاوكسى تتراسيكللين ثم الانروفلوكساسين والسلفاميثوكسازول وكانت (١٠٠%) من هذه المعزولات لديها القابلية للمضادات الاتية الجنتاميسين والكولستين سالفات والسيفتى فيور بينما وجدت (٨٧,٥%) من معزولات الايشيريشيا كولاى حساسة للسيفتى فيور وكذلك (١٠٠%) من الايشيريشيا كولاى مقاومة للنيومايسين والاستريبتومايسين.