

Dedication

I Dedicate this study to
the soul my first
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To my mother, brother
and sisters

To my husband and
daughters

To my colleagues and
friends

With love and gratitude

Acknowledgments

I render my thanks and praise to almighty “Alla”.

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Abstract

This study was carried out in Khartoum North area to isolate and identify the bacteria associated with respiratory tract infection in chickens and to determine the effects of common identified bacteria on broiler performance (growth rate , feed intake , feed conversion ratio ,weight gain ,carcass quality and mortality) and hematological .

Seven hundred and twenty Samples were collected from Poultry Market (Bahary and KuKu Market) , East of Nile farms , central of Khartoum North farms (Shambat and Samrab). Samples were aseptically collected from different breed of chickens (Balady , Fioumy and Hybreed) showing clear respiratory signs .

Sterile cotton swabs were used for taking samples from trachea, lung , spleen, Liver, intestine and reproductive system . The collected samples showed bacterial growth and yielded 325 isolates (45.14%) Gram-negative bacteria , 253 isolates(35.17%) Gram - positive and the remaining 142 (19.72%)were showed no growth .

Gram -negative bacteria isolated were : *Escherichia coli* , *Citrobacter freundii*, *Haemophilus paragallinarium* , *Pseudomonas diminuta* and *Pseudomonas aeruginosa* . Broiler chickens were experimentally infected by the most common isolated bacteria (*Escherichia coli* and *Citrobacter freundii*) . The infected birds showed significant decrease in feed intake and weight gain while feed *conversion* ratio and mortality rate were increased .

The highest mortality (19.05 %) was recorded in group (B)which was infected by *Escherichia coli* .

Carcass and non carcass characteristics were not affected by experimental infection of broiler by either with *Escherichia coli* nor with *Citrobacter freundii* but, there was slightly increase in weight of the head and heart . Experimental infection of broiler chicks with either *Escherichia coli* or *Citrobacter freundii* significantly

affected blood parameters ; White blood cells count were increased two days after infection , Red blood cell count , packed cell volume and haemoglobin concentration were decreased .

Broiler chicks infected with Escherichia coli showed loss of appetite, decreased, feed intake, mucous nasal discharge and diarrhea.

الاطروحة

أجريت هذه التجربة على عينات من الدجاج (بلدى , فيومى و بياض ولاحم مستورد) تم جمعها من اسواق بحرى وحلة كوكو ومزارع انتاجية للاحم والبياض فى منتطقتى الريف الشمالى لبحرى وشرق النيل , وذلك بغرض عزل ومعرفة البكتريا السالبة الهوائية المسببة لأمراض الجهاز التنفّس

وايضا اختبار تاثير الباكترىا الاكثر شيوعا فى العينات على الخصائص القياسية لفراخ الاحم .

الخصائص القياسية التى تم اعتبارها فى الدراسة تضم :

(معدل استهلاك الغذاء , وزن الجسم المكتسب , معدل التحول الغذائى , معدل النفوق بالاضافة الى خصائص الذبيح وملحقاته) . تم ايضا دراسة تاثير الباكترىا الاكثر شيوعا فى العينات على خصائص الدم والتغيير التشريحي للدجاج اللاحم .

تم اختبار 720 عينة من عدد 120 دجاجة , اشتمل الفحص على الاعضاء الاتية : القصبة الهوائية , الرئة , الطحال , الكبد , الامعاء والجهاز التناسلى . وجميع العينات تمت زراعتها لعزل البكتيريا الهوائية السالبة . اوضحت الدراسة ان اهم البكتيريا السالبة التى تم عزلها هى : الاشرشية القولونية وستروباكتر فرندى والباكتريا المشعة محبة الدم والزائفة الزنجبارية .

عند الاصابة التجريبية لفراخ اللاحم باكثر أنواع البكتريا السالبة شيوعا وهما : الاشرشية القولونية و ستروباكتر فرندى وجد التاثير السلبى لكلا النوعين اثر سلبى على كل من : معدل استهلاك الغذاء , وزن الجسم المكتسب , معدل التحول الغذائى , معدل النفوق .

أنخفض معدل استهلاك الغذاء كما انخفض وزن الجسم المكتسب وكانت هنالك زيادة ملحوظة فى معدل التحول الغذائى ومعدل النفوق بعد الاصابة لتجريبية بالاشرشية القولونية وستروباكتر فرندى .

أكثر معدل للنفوق هو (19.05%) وقد سجل بواسطة المجموعة (ب) والتي تمت اصابتها بميكروب الاشرشية القولونية .

اوضحت الدراسة بان خصائص الذبيح وملحقاته بعد الاصابة بالاشرشية القولونية وستروباكتر فرندى لم تتاثر بالاصابة بالاشرشية القولونية وستروباكتر فرندى ولكن هنالك زيادة طفيفة فى وزن الراس والقلب .

ايضا اوضحت الدراسة ان الباكثيريا الاكثر شيوعا (لاشرشية القولونية وستروباكتر فرندى) لها تاثير مختلف على خصائص الدم فى الدجاج اللاحم , فقد زاد عدد كريات الم البيضاء فى اليوم الثانى بعد الاصابة كما نقص عدد كريات الحمراء ونسبة الهيموقلوبين مما ادى الى حدوث الانيميا .
الدجاج اللاحم الذى اصيب تجريبيا بواسطة بالاشرشية القولونية ظهرت عليه اعراض واضحة وهى : فقدان الشهية وانخفاض معدل استهلاك العلف وافرازات مخاطية انفية وصعوبة التنفس وظهور اسهالات . كما ان التشريح اظهر تجمع للدم فى الرئة والقلب , وتضخم الكبد والطحال مع وجود بقع نزفية فى الكبد وتجمع للغازات فى الامعاء خاصة الاعورين .

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