EFFECTS OF (*Artemisia herba-alba*) AND (*Urtica dioica*) ON SOME BLOOD PARAMETERS IN BROILER CHICK WHICH INFECTED EXPERIMENTALLY WITH *Eimeria tenell*

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Keywords: Coccidiosis, Artemisia herba alba, Urtica dioica

ABSTRACT

This study was carried out to determine the effect of the herb and Urtica dioica of the vitality of the Eimeria tenella, it conducted on 150 Ross broiler chicks, divided randomly on the seventh days into six groups. The last two groups (five and six) were considered as a positive and negative control groups, the first five groups were experimentally infected by 1000 oocysts/bird of *Eimeria tenella* at 17 days old directly in to the crop. The first four groups were given Artemisia herba alba and Urtica dioica According to concentrations for each group. Results were indicated a higher significant differences (P < 0.05) in the means of PCV for the groups that treated water herbs extracts of Artemisia herba alba and Urtica dioica (38.5±1.3 $.39.5\pm1.6\%$) respectively compared to positive and negative control groups $(32.0\pm1.0,$ 33.0±1.13%); also, increase in the means of Hb concentration in the groups which treated with the Urtica dioica in food $(14.2 \pm 1.1 \text{ gm}/100\text{ml})$ and water extract (15.4 m) \pm 1.2 gm /100 ml) respectively compared to the control groups. A higher significant differences (P<0.05) were recorded in means of WBCs of the water extract of both herbs Artemisia herba alba and Urtica dioica $(30.8 \pm 0.3, 31.0 \pm 0.3 \times 10^{3} \text{ cell/ml})$ respectively compared to control group. While the differential count of WBCs were showed a significant decrease (P<0.05) in the heterophils of both herbs of water extracts of Artemisia herba alba and Urtica dioica (20.4±1.5%, 19.0±1.7%) respectively, especially at 5th week compared to control positive and negative groups. In conclusion used herb Urtica dioica especially aqueous extract enhance immune efficiency as well as the aqueous extract of the Artemisia herba-alba herb. And use the standard doses of 1% or less from Artemisia and Urtica dioica fodder and water are

safety doses without mortality or side effects in broiler. Further studies are needed to (re) evaluate effect of Urtica *dioica*, *Artemisia* on other parasites.

INTRODUCTION

Intestinal parasites are stressful factors leading to malnutrition and low production efficiency of the flock of poultry, including Coccidia disease (Coccidiosis). One of the most economically and globally important parasitic diseases of poultry is coccidiosis (1), which is caused by a protozoan parasite belonging to *Eimerriidae* family, it consist from several races, and sex *Eimeria*. The type *E.tenella* is the most virulent that causing high mortality. The most susceptible age to infection between 16 -30 days by 57% (2).

Although the therapeutic benefits of drugs used against these parasites remain use a warning, with reduces the significance due to effects of high toxicity as well as side effects on the consumer and production. Perdition could happen because of the toxins secreted by the parasite with dehydration, which begins at the fifth until the seventh or ten days post infection or may improve and self-healing occurred, but most of them become a subclinical coccidiosis (3). The parasite resistance to various drugs is one of the most important problems of the poultry industry in the world (4). Therefore, research and studies have tended strongly towards the use of natural herbs therapeutic alternatives to control the disease and that the low of cost and effectiveness of pharmaceutical and maintain the growth and health of the birds as well as the therapeutic effects against bacteria, parasites and fungi, and other (5). Extensive use in Iraq herbs are herb worm wood particular type Artemisia herba *alba*, which is used in popular Iraqi medicine being useless toxic medical and therapeutic and properties in the treatment of diabetes, hypertension, and act as antioxidant (6). Newly know herb is used to control poultry diseases especially coccidia, because it have effect protect the chicks from the parasite (7). The herb Urtica dioica is indicated in the treatment of anemia, hypoglycemia, arthritis and for treatment viral infections. And used in a supplement because they contain important nutritional compounds (8).

Due to the lack of research and studies on the effect of the herb and *Urtica dioica* of the vitality of the *Eimeria tenella*. This study was designed for this purpose by measured the packed cell volume (PCV), hemoglobin concentration (Hb) and total absolute and differential count of white blood cells (WBCs).

MATERIALS AND METHODS

1- Preparation of Oocysts

Intestinal samples were collected from natural infected broiler chickens with coccidia (*E.tenella*) which suffer from bloody diarrhea, emaciation, in the province of Baghdad (Al Rashidiya and Abu Ghraib) and processing of the sample was carried out after the addition of Potassium dichromate at the concentration of 2.5%. And sent to the laboratory of parasites/Parasitology department / College of Veterinary Medicine /Baghdad University and isolated the contents of cecum. Two ways used for sporulation, the first was by using of magnetic vibrator (Magnetic stirrer) [9]. While the second method was propagation of supernatant in Petri dishes [10]. Oocysts were purified by flotation [11]. Isolation and multiplication of the parasite oocysts being diagnosed depending on the microscopic examination of oocysts using Ocular Micrometer and macroscopic examination of the lesion site in infected chicks [12].

2. Preparation of herbal powder

The purchase of leaves and stems of herb (herba alba) and nettles (Urtica dioica) from market which classified by the National lush in Abu Ghraib, cleaned, grinded, preserved and kept in nylon bags.

3. Preparation water and alcoholic extracts of herbs [13].

4. Experimental birds

150 one-day-old Ross strain broiler chicks were used in present study, were obtained from Al-Rashidiya Privet hatchery poultry, and were reared in cages, water and feed were supplied and then divided into six groups on the seventh day of age, which included the first 30 chicks (add powdered herb 1% of the feed), the second : 30 chicks (herb powder *Urtica dioica* 1% of the feed), third: 30 chicks (aqueous extract of *Artemisia* 0.5% drinking water), fourth: 30 chicks (aqueous extract of the *Urtica dioica* 0.5% drinking water), while the fifth: 15 chicks (positive control), and the sixth: 15 chicks (negative control). At seventeenth day all groups except G6 were treated with 1000 oocysts monthly by gavage needle.

5. Study criteria

The collection of blood samples from all chicken from wing vein after sterilizing the area by alcohol-ethyl concentration (70%), where (2.5 ml) of blood was collected from each and distributed in the anticoagulant (EDTA) tubes, for studying blood standards packed cell volume (PCV), hemoglobin concentration (Hb) and white blood cells (WBCs), (14 & 15).

f- statistical analysis: The study relied on randomized complete statistical analysis (Complete Random Design) data, and compared with averages between groups using Least statistical program Significant Differences-LSD), at a significant level of 0.05)) using the ready-statistical analysis, and comparison between the averages test using t-test and the level of significant (0.05), (16) was done.

RESULT AND DISCUSSION

The results in table (1) showed high volume PCV that was significantly (P <0.05) in aqueous extracts treatment groups for both herbs from the third week ($31.5 \pm 1.08\%$, $35 \pm 2\%$) to reach the highest level in the sixth week (38.5 ± 1.3 , 39.5 ± 1.6), respectively, after the herbal treatment compared with two groups positive control (infected) and negative, which averages in the sixth week (32.0 ± 1.0 , 33.0 ± 1.13) respectively, and elevated in the other groups treated by food as compared with positive control treatment (P <0.05) in the third week after the herbal treatment.

Week Group	Third	Fourth	Fifth	Sixth
G1	30.50 ± 1.1^{Bb}	30.0±0.80 ^{Bbc}	30.3±1.4 ^{Bbc}	32.8± 1.3 ^{Ab}
G2	28.50±0.8 ^{cbc}	30.0 ± 0.8 ^{Bbc}	32.5 ±2.0 ^{Aab}	35.0 ± 0.8^{Ab}
G3	31.50±1.08 ABb	31.8±1.12 ABb	32.8 ±1.2 ^{ABa}	38. 5±1.3 ^{Aa}
G4	35.00 ±2.0 ^{Ва}	35.3 ±1.92 ^{Ba}	33.3 ±2. 2 ^{Ba}	39.5 ± 1.6 ^{Aa}
G5	27.8 ±0.68 ^{Bc}	28.3 ± 1.6 ^{Ccd}	29.3 ± 0.5 ^{Bbc}	32.0 ± 1.0 Ab
G6	31.5 ±0.32 ^{ABb}	31.03 ± 0.4 ^{Bb}	31.02 ±0.5 ^{Bb}	33.0 ± 1.13 Ab

Table (1) the effect of the Artemisia herba alba and Urtica dioica on the PCV in
the infected broiler with E.tenella.

Different small letters vertically indicate the presence of significant differences (0.05> P) between transactions. Large horizontally different letters indicate significant differences (0.05> P) between weeks. $G1 = herba \ alba$ group fodder (% 1), $G2 = \text{group } Urtica \ dioica$

fodder (% 1), G3 = *herba alba* group with water (% 0.5) G4 = group *Urtica dioica* with water (0.5) %, G5 = positive control group, G6 = negative control group.

The decline in the rates of PCV in a positive control, due to anemia as a result of infection with *E.tenella* due to penetration the parasite to epithelial cells leading to bleeding and thus decrease the number of RBCs and PCV. These observations close to those reported by (17). Also this results in line with (18) who reported the effect of *Artemisia herba alba* and *Urtica dioica* in the treated groups has led to increase the PCV and due to the containing of these *herba* high salts such as sodium, magnesium, calcium, potassium, iron and zinc, which has some of the properties to stimulate the production of RBCs (Erythropoiesis), the fact that *Artemisia herba alba* reduces the level of oxidized red blood cells membranes and thus reduce the decomposition of these cells and then increase the number and their Hb concentration(18).

Table (2) shows an increase in the concentration of Hb levels in groups treated with *Artemisia herba alba* and *Urtica dioica* that reached the highest levels in the sixth week, especially for the two *Urtica dioica* fedding and water treatment groups (14.2 \pm 1.1 g / 100 ml) and (15.4 \pm 1.2 g / 100 ml), respectively, and this increase was significant (P <0.05) as compared to the positive control (infected) and negative. The two groups of chicks treated with water extracts of *Artemisia herba alba* and *Urtica dioica* showed a significant difference (P <0.05) during the fourth, fifth and sixth weeks as compared with the positive control after herbal treatment.

Conce	concentration of nemoglobin revers in broner infected with <i>Litenetua</i> .				
Week Groups	Third	Fourth	Fifth	Sixth	
G1	10.8± 0.4 bc	12.6 ±0.7 ^{Bb}	13.4 ±1.1 ^{Ab}	13.3 ±0.9 ^{Bb}	
G2	9.7 ± 0.5 ^{Cc}	10.3 ± 0.6 ^{Bc}	10.2 ± 0.2 ^{Bc}	14.2 ±1.1 ^{Ba}	
G3	12.2 ± 0.3 ^{Ca}	13.9 ± 1.04 Ab	13.0 ±0.7 ^{BCb}	14.0 ±0.9 ^{Aa}	
G4	11.6 ± 0.9 ^{Cb}	14.9 ± 1.01 Aa	15.1 ±0.6 ^{Aa}	15.4 ±1.2 ^{Aa}	
G5	7.5 ± 1.2 ^{Dd}	10.3 ± 0.6 Ac	9.5 ±0.11 ^{Bd}	10.4 ± 0.4 Ac	
G6	13.0 ± 0.6 ^{Ba}	15.2 ± 0.9 Aa	13.6 ±0.5 ^{Bb}	13.3 ±0.4 ^{Bb}	

 Table 2 the effect of the Artemisia herba alba and Urtica dioica on the concentration of hemoglobin levels in broiler infected with E.tenella.

Different small letters vertically indicate the presence of significant differences (0.05> P) between transactions. Large horizontally different letters indicate significant differences (0.05> P) between weeks. G1 = *herba alba* group fodder (% 1), G2 = group *Urtica dioica* fodder (% 1), G3 = *herba alba*

group with water (% 0.5) G4 = group *Urtica dioica* with water (0.5) %, G5 = positive control group, G6 = negative control group.

A perusal of table (3) indicated that the number of WBCs was significantly increased (P <0.05) in groups fed on *Artemisia herba-alba* and *Urtica dioica* in the third and fifth weeks after the herbal treatment compared with positive and negative control groups in the third week after the herbal treatment but not significant (P> 0.05) in the fifth week. Its highest rate $31.01 \pm 0.3 \times 10^3$ cells / ml in the group fed the herb *Urtica dioica* in water in the sixth week after the treatment, followed by the group fed the *Artemisia herba-alba* in water $30.8 \pm 0.3 \times 10^3$ cells / ml as show in table (3).

Average \pm standard error coefficient (x103 cells / ml)					
Week group	third	Fourth	Fifth	Sixth	
G1	26.5 ± 1.0 ^{Bc}	28.0±0.4 ABb	28.8 ± 0.5^{Ab}	29.3 ± 0.4^{Aab}	
G2	25.6 ± 3.7 ^{Bc}	25.8 ± 0.6 ^{Bc}	29.0 ± 0.4^{Ab}	30.08 ± 0.3^{Aa}	
G3	29.4 ±0.6 ^{Aa}	29.5±0.6 ^{Aa}	$29.8 \pm 0.5^{\text{Aab}}$	30.8 ± 0.3 ^{Aa}	
G4	27.8 ±0.7 ^{Сь}	29.2 ± 0.3 ^{BCa}	31.0 ± 0.3^{ABa}	31.01 ± 0.3^{Aa}	
G5	23.1 ±0.8 ^{Da}	25.41 ± 1.0^{Cc}	$27.9\pm0.7^{\rm Bc}$	29.0 ± 0.6^{Abc}	
G6	27.3 ±0.2 ^{Bb}	27.6 ± 0.8^{Bb}	$28.8\pm0.9^{\rm Ab}$	29.1 ± 0.5^{Abb}	

Table (3) the effect of the herb Artemisia herba-alba and Urtica dioica on totalcount of WBCs in the broiler infected with E.tenella.

Different small letters vertically indicates the presence of significant differences (0.05 > P) between treatment. - Large various letters horizontally indicates the presence of significant differences (0.05 > P) between weeks. G1 = *Artemisia herba-alba* in Fodder (% 1), G2 = group *Urtica dioica* in Fodder (% 1), G3 = *Artemisia herba-alba* with water (0.5)%, G4 = *Urtica dioica* water group (0.5)%, G5 = positive control group (infected), G6 = negative control group.

The increased total count of WBCs of chicks processing with extracts *Artemisia herba-alba* and *Urtica dioica* in the fourth, fifth and sixth weeks compared to the groups of control it represented a natural response for the entrance of the parasite in the intestinal cells and it is antigens stimulate the immune system reported that chickens infected with *Eimeria* species causes production of *Eimeria-* specific immunoglobulin- G which correlated with immunity against infection, these fact observed were WBCs count in chicks control groups among the natural averages rate and approach to recorded (22).

Data of table (a) shows that there is a significant decrease (P <0.05) in the percentage of WBCs in fed groups with extracts *Artemisia herba-alba* and *Urtica dioica* in water for the fifth and sixth weeks after herbal treatment group compared with the positive control, which showed a remarkable increase in the fifth week (32.7 \pm 1.4%) after th herbal treatment.

Week Group	Third	Fourth	Fifth	Sixth
G1	34.2 ± 1.3^{Aa}	33.4 ± 2.03^{Aa}	27.8±3.4 Bab	24.3±0.6 Bab
G2	28.8 ± 1.9^{Ab}	$28.8 \pm 3.3^{\text{Aab}}$	$24.8 \pm 1.3^{\text{Bbc}}$	23.1 ± 6.3^{Cc}
G3	$23.4 \pm 1.6^{\text{Abcd}}$	23.4 ± 1.7^{Aab}	20.4 ± 1.5^{Bc}	23.2±2.4 ^{Ac}
G4	24.2±1.6 ^{Ac}	20.0 ± 1.7^{Bc}	$19.0 \pm 1.7^{\text{Dc}}$	$20.8 \pm 1.9^{\text{Cd}}$
G5	31.8 ± 1.5^{Aab}	$27.3 \pm 1.0^{\text{Cbc}}$	32.7±1.4 Aa	28.0 ± 2.0^{Ba}
G6	$28.5 \pm 1.7^{\text{Ab}}$	28.2 ± 2.4^{Aab}	$26.0 \pm 1.3^{\text{Bab}}$	26.6 ± 1.4^{Ba}

Table (a) the effect of the extracts herb Artemisia herba-alba and Urtica dioica
on the proportion of cells in broiler infected with <i>E.tenella</i> .

Different small letters vertically indicate the presence of significant differences (0.05> P) between treatment. - Large various letters horizontally indicates the presence of significant differences (0.05> P) between weeks G1 = Wormwood group Fodder (% 1), G2 = group diskette Fodder (% 1), G3 = *Artemisia herba-alba* with water group (0.5%), G4 = group *Urtica dioica* with water (% 0.5), G5 = positive control group (infected), G6 = negative control group.

The results of lymphocytes ratio in treated groups *with Artemisia herba-alba* and *Urtica dioica* herb water presented in table (b) which revealed significant increase at (P <0.05) in the number of lymphocytes compared with a positive control (infected) after herbal treatment, this increase reached highest levels (66.4 ± 1.72 , 68.6 ± 2.9), respectively, in the fifth week after the herbal treatment.

Average \pm standard error coefficient%					
Week Group	Third	Fourth	Fifth	Sixth	
G1	$52.4 \pm 2.3^{\text{Bbc}}$	47.4 ± 3.44^{Bc}	52.0 ± 1.3^{Bc}	$65.0 \pm 2.3^{\text{Aba}}$	
G2	52.3±3.5 ^{Bbc}	53.2±2.5 ^{ABbc}	59.8 ± 0.8^{Ab}	54.6 ± 5.4^{ABd}	
G3	$52.6 \pm 1.4^{\text{Bbc}}$	48.6 ± 2.2^{Bc}	66.4± 1.72 ^{Aa}	62.2±4.4 Abc	
G4	57.8 ± 0.9^{Bab}	65.6 ± 2.4^{Aa}	68.6 ± 2.9^{Aa}	73.5 ± 2.3^{Aa}	
G5	45.5 ± 1.63 ^{Bc}	46.8 ± 2.01^{Bc}	$56.0 \pm 2.04^{\text{Abc}}$	55.2 ± 2.3^{Acd}	
G6	68.8±1.8 ^{Aa}	56.0 ± 2.3^{Bb}	60.7 ± 1.42^{ABb}	57.4 ± 1.43^{Bcd}	

Table (b) the effect of the herb Artemisia herba-alba and Urtica dioica on the
proportion of lymphocytes in broiler infected with E.tenella .

Different small letters vertically indicate the presence of significant differences (0.05> P) between treatment- Large various letters horizontally indicate the presence of significant differences (0.05> P) among weeks. G1 = *Artemisia herba-alba* Fodder (% 1), G2 = group *Urtica dioica* Fodder (% 1), G3 = *Artemisia herba-alba* with water (% 0.5), G4 = group *Urtica dioica* with water (% 0.5), G5 =

positive control group (infected), G6 = negative control group.

Table(c) indicated increased the number of monocytes in the fed group *Artemisia herba-alba* and *Urtica dioica* significantly (P < 0.05) in the fifth week, compared with a positive control after herbal treatment, while it decreased in water treated groups in the fifth and sixth weeks, compared with a positive and negative control after herbal treatment.

Table (c) the effect of Artemisia herba-alba and Urtica dioica on monoc	ytes
ratios in broiler with <i>E.tenella</i>	

Average ± standard error coefficient%					
Week	Third	Fourth	Fifth	Sixth	
Group					
G1	$7.2 \pm 0.7^{\text{ABab}}$	10.0 ± 0.54^{Aa}	8.8 ± 0.9^{Aa}	8.6 ± 0.74^{Bb}	
G2	$6.0\pm1.44^{\text{Ab}}$	8.2 ± 1.4^{Aab}	8.0 ± 0.9^{Aab}	7.4±2.24 Aab	
G3	8.6 ± 0.4^{Aab}	9.6 ± 0.5^{Aa}	$4.0\pm1.3^{\mathrm{Bd}}$	5.25±1.3 ^{Bb}	
G4	8.6 ± 0.9^{Aab}	7.4 ± 1.12^{ABab}	5.5 ± 1.43^{Bbc}	2.2 ± 0.5^{Cc}	
G5	9.2 ± 0.24^{Aa}	10.3 ± 2.4^{Aa}	6.3±2.4 ^{Bcd}	8.2 ± 1.02^{Aa}	
G6	3.7 ± 0.6^{-Bc}	6.4 ± 0.97^{ABb}	7.3 ± 0.6^{Aab}	9.0 ± 0.5^{Aa}	

Different small letters vertically indicate the presence of significant differences (0.05> P) between treatment. letters Large horizontally various indicate that there are significant differences (0.05> P) between weeks. G1 = *Artemisia herba-alba* group fodder (% 1), G2 = group *Urtica dioica* fodder (% 1), G3 = *Artemisia herba-alba* group with water (% 0.5), G4 = group *Urtica dioica* with water (% 0.5), G5 = infected control group, G6 = control group negative.

The table (d) shows that acidophils rates in all treatment groups *Artemisia herbaalba* and *Urtica dioica* was fluctuating throughout the duration of the experiment and didn't show a significant effect in values when compared with the positive control group despite the high rates in this group after herbal treatment.

rates in infected brioter with <i>Lichelia</i>					
Average \pm standard error coefficient%					
week	Third	Fourth	Fifth	Sixth	
group 🔨					
G1	4.4 ± 1.03^{Bb}	7.0 ± 0.1^{Ab}	6.8 ± 0.9^{ABab}	$4.6\pm0.6^{\rm Bbc}$	
G2	10.0 ± 2.0^{Aa}	7.4±1.5 ^{Ab}	7.4 ± 1.12^{Aab}	8.0 ± 1.9^{Aa}	
G3	$5.6 \pm 1.2^{\text{ABb}}$	6.6 ± 0.9^{ABb}	8.0±1.1 ^{Aa}	$5.0\pm0.9^{\rm Bc}$	
G4	$6.4{\pm}0.5^{\rm Ab}$	5.0 ± 0.54^{Ab}	$4.5 \pm 0.7^{\rm Abc}$	5.5 ± 1.1^{Abc}	
G5	10.6 ± 0.5^{Aba}	12.3 ± 0.9^{Aa}	$8.0\pm1.5^{\mathrm{BCa}}$	7.0 ± 0.7^{Ca}	
G6	1.6 ± 0.32^{Bc}	5.6±1.32 ^{Ab}	3.0 ± 0.73^{Bc}	$1.4 \pm 0.4^{\text{ABc}}$	

 Table (d) the effect of Artemisia herba-alba and Urtica dioica on eosinophils

 rates in infected brioler with E.tenella

Different small letters vertically indicate the presence of significant differences (0.05> P) between treatment. letters Large horizontally various indicate that there are significant differences (0.05> P) between weeks. G1 = *Artemisia herba-alba* group fodder (% 1), G2 = group *Urtica dioica* fodder (% 1), G3 = *Artemisia herba-alba* group with water (% 0.5), G4 = group *Urtica dioica* with water (% 0.5), G5 = infected control group, G6 = control group negative.

The results of Basophils ratio shows in table (e) that there is an increase and a decrease in the number of these cells in the *Artemisia herba-alba* and *Urtica dioica* treatment groups compared with two groups of positive and negative control after the herbal treatment.

Average ± standard error coefficient%					
Week Groups	Third	Fourth	Fifth	Sixth	
G1	1.8 ± 0.9^{Aa}	2.2 ± 0.6^{Aa}	2.6 ± 0.6^{Aa}	1.3 ± 0.24^{Ab}	
G2	2.8 ± 0.6^{Aa}	3.4 ± 0.3^{Aa}	1.5 ± 0.5^{Bb}	2.4 ± 0.6^{Aab}	
G3	3.5 ± 0.5^{Aa}	2.8 ± 0.73^{Aa}	1.5 ± 0.3^{Aa}	2.2 ± 0.73^{Aab}	
G4	3.0 ± 0.44^{Aa}	$2.0\pm0.83^{\rm Aa}$	1.2 ± 0.8^{Aa}	2.0 ± 0.8^{Aab}	
G5	2.8 ± 1.24^{Aa}	3.5 ± 0.5^{Aa}	2.25 ± 0.92^{Aa}	1.8 ± 0.7^{Aab}	
G6	1.5 ± 0.42^{Aa}	3.0 ± 0.9^{Aa}	2.5 ± 0.6^{Aa}	3.4 ± 0.6^{Aa}	

Table (e) the effect of Artemisia herba-alba and Urtica dioica on basophils cells rates in infected broiler which infected with E.tenella

Different small letters vertically indicate the presence of significant differences (0.05> P) between treatment. letters Large horizontally various indicate that there are significant differences (0.05> P) between weeks. G1 = *Artemisia herba-alba* group fodder (% 1), G2 = group *Urtica dioica* fodder (% 1), G3 = *Artemisia herba-alba* group with water (% 0.5), G4 = group *Urtica dioica* with water (% 0.5), G5 = infected control group, G6 = control group negative.

Ethanolic extract of the herb *Urtica dioica* increases phagocytosis in broiler (23). Vitamins as agents of positive effects on the productivity performance of this birds (24). This lead to increase migration of cells to the intestine, especially cecum as response to the parasitic infection, and the decline in heterogeneous cell ratios and increased lymphocyte as a result to chronic disease coccidial due to the influence of herb *Artemisia herba-alba* as an immune stimulant for both humoral and cellular response. And low lymphocytes at the beginning of the infection then rise due to infiltration through intestinal mucosa, followed by an immune response to the bird (25), while monocytosis in the positive control group at fourth week may be the result of tissue damage (3).

In conclusion used the herb *Urtica dioica* especially aqueous extract enhance immune efficiency as well as the aqueous extract of the *Artemisia herba-alba* herb. And use the standard doses of 1% or less from *Artemisia* and *Urtica dioica* fodder and water are safety doses without mortality or side effects in broiler.

Further studies are needed to (re) evaluate effect of Urtica *dioica*, *Artemisia* on other parasites by using broiler as suitable animal for this studies

تأثير عشبتي الشيح والقريص على بعض المعايير الدمويه في فروج دجاج اللحم المخمج بطفيلي الايمريا تنيلا

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الخلاصة

نفذت هذه الدراسة لتحديد تأثير عشبتي الشيح والقريص على حيوية طفيلي الايمريا تنيلا ، أجريت على 150 فرخ نوع روز ، قسمت عشوائيا الى ستة مجاميع بعمر سبعة أيام . اختيرت المجموعتين الخامسة والسادسة كمجموعتى سيطرة ، أصيبت المجاميع الخمسة الاولى تجريبيا ب 1000 كيس بيضة بطفيلي الايميريا تنيلا بعمر 17 يوما من خلال تجريعها بالحوصلة مباشرة. بعدها تم معالجة المجاميع الأربعة الأولى بعشبتي الشيح والقريص حسب التراكيز لكل مجموعة. أظهرت النتائج ارتفاعا معنويا (P<0.05) في معدلات حجم خلايا الدم المرصوصة للمجاميع المعالجة بالمستخلصات المائية لعشبتي الشيح والقريص (38.5±1.3 و 39.5±1.6%) على التوالي مقارنة مع مجموعتي السيطرة الموجبة والسالبة(32.8±1.1 و 33.3±2.2%) على التوالي ، ولوحظ زيادة في مستوى تركيز خضاب الدم للمجاميع المعالجة بالعشبة كافة وخاصة لمجموعة القريص بالعلف والماء (14.2±1.1 و 15.4±1.2غم/100مل) على التوالي مقارنة مع مجموعتي السيطرة. ارتفعت معدلات أعداد خلايا الدم البيض معنويا(P<0.05) للمجاميع المعالجة بالمستخلصات المائية لكلا العشبتين (30.8±0.3 و 31.01±±0.3 x 10³x اخلية /مل)على التوالي مقارنة مع مجاميع السيطرة الموجبة والسالبة. بينما أظهر العد التفريقي لخلايا الدم البيض انخفاضا معنويا (P <0.05) في المجموعة المعالجة بالمستخلص المائي لعشبة القريص (19.0±1.7%) وكذلك المجموعة المعالجة بالمستخلص المائي لعشبة الشيح (1.5±20.4) في الأسبوع الخامس مقارنة مع المجاميع الباقية الأولى والسيطرة الموجبة والسالبة. وفي الختام، يمكن الاستنتاج، ان استخدام المستخلص المائي لعشبتي القريص والشيح يعمل على تحسين كفاءة جهاز المناعة وإن المعالجة باستخدام الجرعة القياسية 1٪ أو أقل لكلا العشبتين بالماء والعلف تعد جرعة امنة لاتؤدى الى حدوث وفيات أو آثار جانبية في دجاج اللحم وهناك حاجة إلى مزيد من الدر إسات لإعادة تقييم تأثير كلا العشبتين على الطفيليات الأخرى.

الكلمات المفتاحية: داء الاكريات، عشبة الشيح والقريص.

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