
بِسْمِ اللَّهِ الرَّحْمَٰنِ الرَّحِيمِ
In the name of Allah
the Most Gracious
the Most Merciful

BIOLOGRAGH



- **PhD, 2011** Clinical studies on cellular and biochemical constituents of rumen liquor and blood in cattle .
- **MSc., 2008** Some Studies on Pneumo-enetritis in sheep.
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- **Member of**
  - Project: “Diagnostic, therapeutic and productive value of the rumen ciliates in ruminants”
  - Project: “Banking of rumen ciliate for improvement of ruminant farm animals production”
- **Conferences**
  - 2nd Forum for livestock improvement held in Egyptian Veterinary socitey for Epidemiology. 21-22/11/2012
  - XX International congress of Mediterranean Federation of Health and production of Ruminants held in Assiut University , 19-22/2/2012.
  - The Second International Conference on Supporting the Ability of Competition between Universities, held in Cairo University, 04-05 June, 2008
  - 2nd Scientific Conference; Cairo University, 12/3/ 2006.



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Title 1–8	Cited by	Year
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Monensin Toxicosis in Camels Reared in Egypt: Updating Clinical and Clinicopathological Investigations SA Mousa, HT El-Hamamsy Journal of Animal Science Advances 3 (10), 551-558		2013

The present study was aimed to studying the effect of seasons of year on physical clinical examination , hematological, biochemical constituents of both blood and rumen liquor in apparently healthy dairy cattle and fattening calves, studying the effect of stages of lactation on physical clinical examination , hematological, biochemical constituents of both blood and rumen liquor in apparently healthy dairy cattle ,studying the effect of some selective digestive disorders on physical clinical examination , hematological, biochemical constituents of both blood and rumen liquor in apparently healthy dairy cattle and fattening calves with therapeutic trial and study its effect



Sabry Mousa

Dr.Sabry Mousa obtained my PhD degree in veterinary medicine (ruminant medicine) in 2011. Since that i had worked in national projects in rumenology titled(DIAGNOSTIC, THERAPEUTIC AND PRODUCTIVE VALUE OF THE RUMEN CILIATES IN RUMINANTS)and (BANKING OF RUMEN CILIATE FOR IMPROVEMENT OF RUMINANT FARM ANIMALS PRODUCTION) .

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Sabry Mousa

Aspects in rumenology of dairy and fatting cattle

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OXIDANT AND ANTIOXIDANT STATUS IN PNEUMONIC GOATS IN EGYPT

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INTRODUCTION

Introduction

- Sheep and goat industry in Egypt is consider one of the main important sources for meat and milk production and consequently important for human life maintenance (Donia , et al 2014) . The goat populations in Egypt is estimated at 4.20milion head and sheep population 5.48 milion head (FAO, 2014) .

- Respiratory diseases in sheep and goat are generally resulting from exposure of animals to stressors such as long period of starvation , long time of transportation , over crowdness, bad ventilation and bad weather (Rahal et al 2014 ; Assad and El Sherif , 2002) followed by invasion of bacterial and viral infectious agents .

Introduction

- Exposure to stressful condition leads to excessive production of free radicals , which results in oxidative stress , an imbalance in the oxidant / antioxidant resulted from excessive production of free radicals without removal leads to irreversible cell damage (Rahal et al ,2014 Nazief, et al 2009) Oxidative stress can influence the metabolism of cells in vital organs of the body (Kataria , et al 2010 b) .

- Research in the area of oxidative stress in veterinary field is still little and require more and more scientific attention and research studies specially in small ruminant sector. For evaluation of oxidative stress in animals require estimation of certain blood biomarkers that reflect the oxidative profile of affected cases (Pilania et al , 2013).

Introduction

- Antioxidant is the first line of defense against free radicals and have a great role in protecting against the dangerous effects of oxidants in organs as lung, kidney … etc (Aytekin I . et al , 2015).Antioxidant system includes antioxidant enzymes as superoxide dismutase (SOD) , Glutathione peroxidase (GPX) , Glutathione reductase (GR) and catalase (CAT) (Singh , K . et al 2009) trace elements as zinc , iron , copper and selenium (Mcdowell et al , 2007) and vitamins as vitamine E and vitamine C (Donia , et al 2014).
- As the oxidative stress have an great negative impact on health and production of the animals and with the fact that efforts to detect oxidative stress in small ruminant are still in the infancy.



OBJECTIVES

objectives

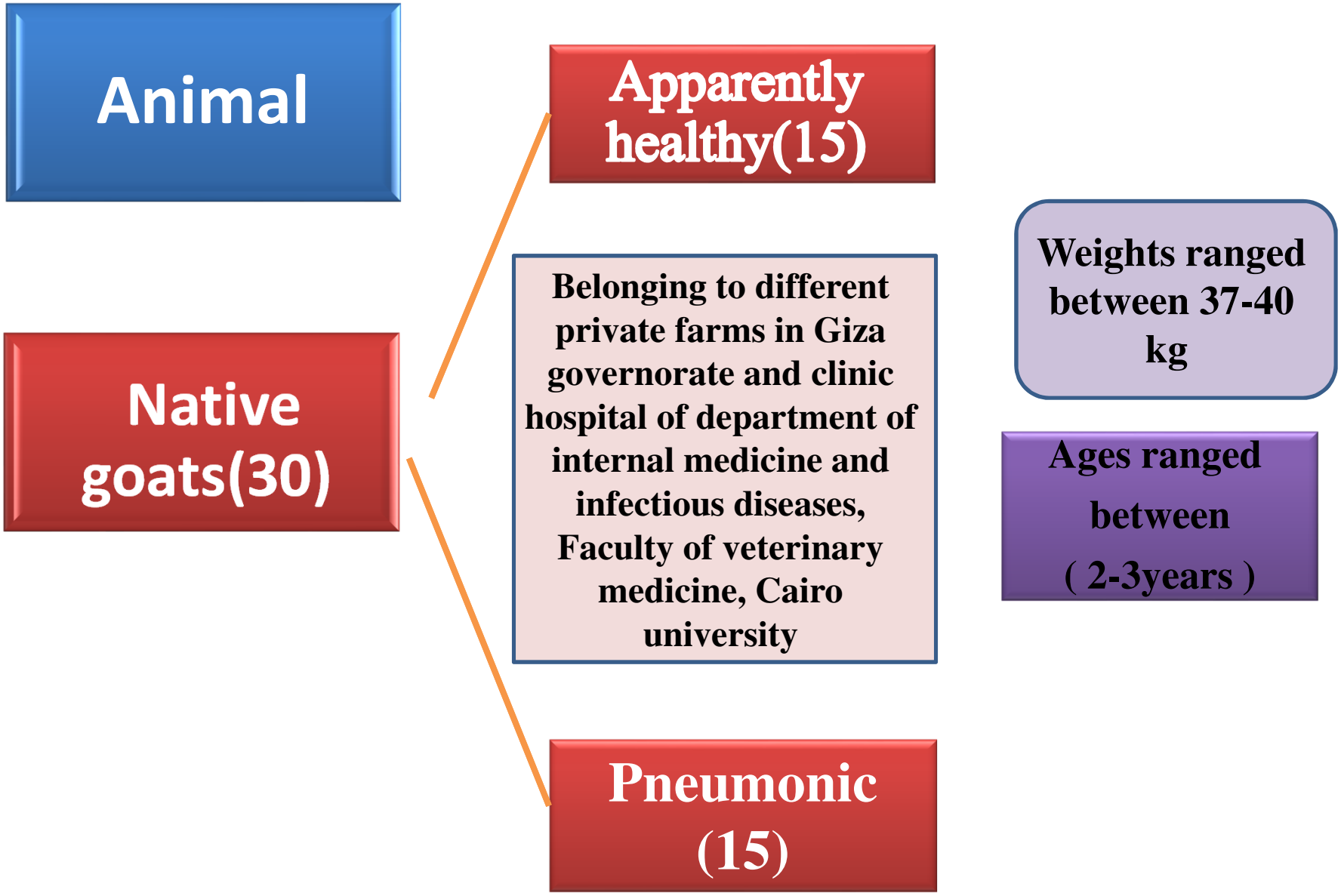
1- Determination of selected serum oxidative stress biomarkers as CAT, SOD and GPx in healthy and pneumonic goats.

2- Determination of selected serum antioxidant as Vit C and Vit E in healthy and pneumonic goats.

3- Determination of selected serum biochemical parameters as Albumin, creatinine , BUN,AST and ALT levels in healthy and pneumonic goat.



MATERIALS AND METHODS


Animal
Native goats(30)
Apparently healthy(15)
Pneumonic (15)
Belonging to different private farms in Giza governorate and clinic hospital of department of internal medicine and infectious diseases, Faculty of veterinary medicine, Cairo university
Weights ranged between 37-40 kg
Ages ranged between (2-3years)

Samples

I. Blood samples:

From each goat two blood samples were collected by jugular vieno-puncture

The first (10ml): of blood in a clean dry centrifuge tube for collection of clean non–heamoliyzed serum for determination the level of selected biochemical constituents.

Samples

The other sample was taken into a clean dry labeled heparinzed test tube .

Heparinized blood was centrifuged at 3000rpm/5 min and pipette off plasma without disturbing the white buffy layer . Plasma was kept and stored at -20c till analysis of enzymes of oxidative stress


METHODS

Methods

I-Clinical examination

Each goat was subjected to have a comprehensive clinical examination procedures including animal description, general inspection, pulse rate , temperature , respiratory rate , mucous membrane ,lymph nodes and rumen movement

II. Determination of selected serum oxidative stress biomarkers

1-Determination of catalase (CAT) :

Catalase was determined by colorimetric method by commercial kits provided by(Bio-Diagnostic, Giza, Egypt) according to method was described by Aebi (1984).

2- Determination of superoxide dismutase (SOD) :

Superoxide dismutase was determined by colorimetric method by commercial kits provided by(Bio-Diagnostic, Giza, Egypt) according method was described by Nishikimi et al (1972) .

3- Determination of glutathione peroxidase (GPX) :

Glutathione peroxidase was determined by colorimetric method by commercial kits provided by(Bio-Diagnostic, Giza, Egypt) according to method was described by Paglia and Valentine (1976).

III.Determination of selected serum antioxidant levels.

1- Determination of Vit C level:

Vitamin C was determined by colorimetric method by commercial kits provided by(Bio-Diagnostic, Giza, Egypt) according to method was described by Carawy , W.T(1970)

2- Determination of Vit E level :

Vitamin E was determined by colorimetricaly according to method was described by Baker and Frank (1988).

IV.Determination of selected serum biochemical constituants

1- Determination of serum albumin.

2- Determination of serum creatinine

4- Determination of serum BUN.

5- Determination of AST

6- Determination of ALT.

Theses constituents were analyzed using APEL-302 , USA spectrophotometer and specific kits produced by (Bio-diagnostic company , Egypt)

.

V.Statistical analysis



Obtained data were statistically analyzed using the SPSS Statistical Computer Software. Copyright (c) SPSS Inc., 2007 version 16.0.



Results

Table(1): **physical parameters in healthy and pneumonic goats ,the results were expressed as mean ± standard error of mean (M ±SM)**

Parameters	Healthy goats (N=15)	Pneumonic goats (N=15)
Respiratory rate (/min)	27.5 ± .58	28.3 ± 1.54*
Pulse rate (/min)	81 ±1.26	84 ±1.5*
Rectal temperature (C°)	39.3 ± 0.03	39.4 ± 0.15*

* p≤0.05 ** p≤0.01 ***p≤ 0.001

Table (2):**Activities of serum enzymes of oxidative stress in healthy and pneumonic goats ,the results were expressed as mean ± standard error of mean (M ±SE)**

Parameters	Healthy goats(N=15)	Pneumonic goats (N=15)
Catalase (CAT) (U/L)	711.63± 0.73	713.61 ± 0.73*
Superoxidedismutas (SOD) (U/L)	227.54± 1.09	230.32± 0.95*
Glutathione peroxidase (GPx)(U/L)	149.85 ± 0.77	152.44 ± 0.94*

* p≤0.05 ** p≤0.01 ***p≤ 0.001

Table (3) : **Serum antioxidants concentrations in healthy and pneumonic goats ,the results were expressed as mean ± standard error of mean (M ±SE).**

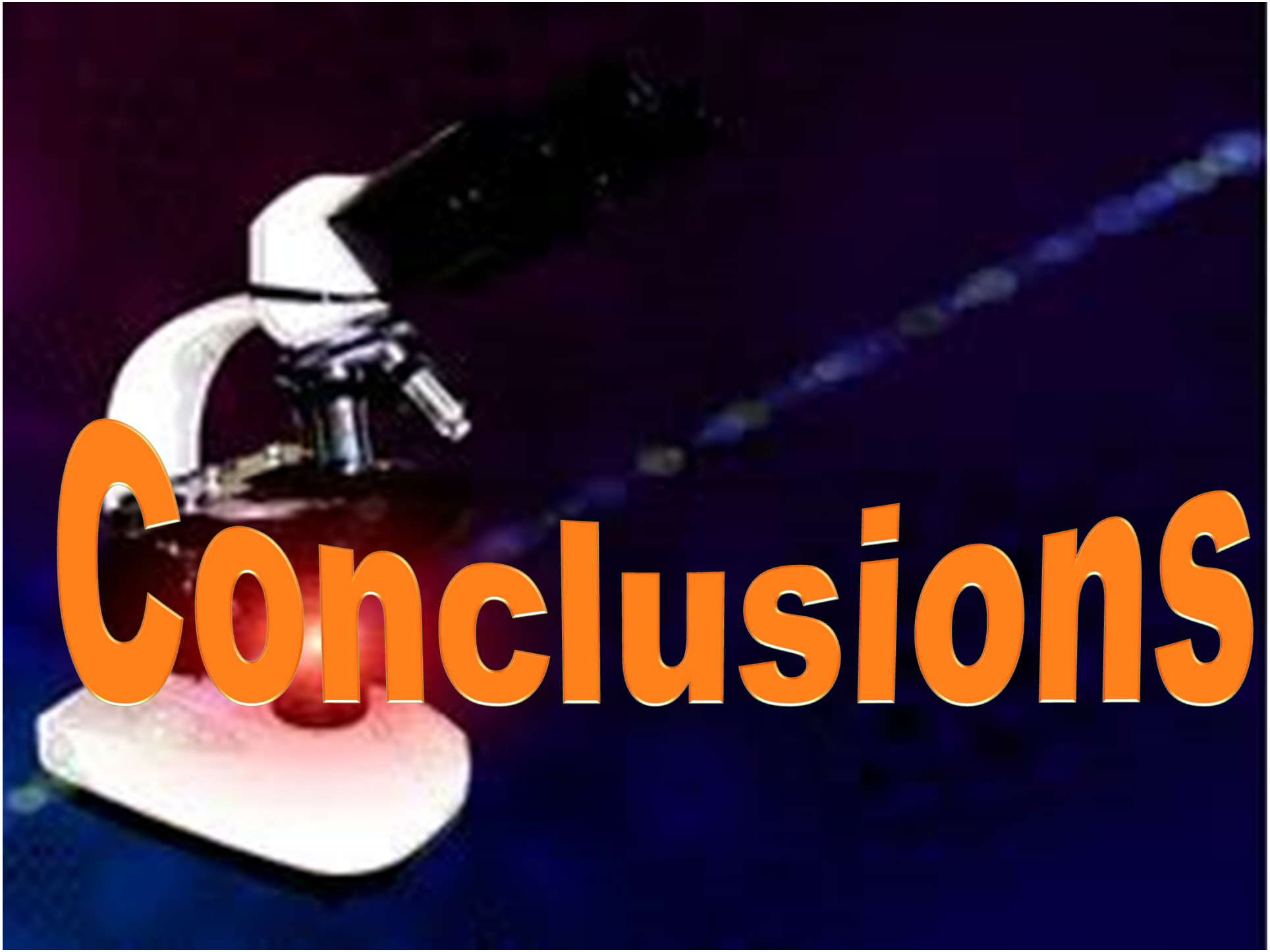
Parameters	Healthy goats (N=15)	Pneumonic goats (N=15)
Vitamin C (mg/dl)	0.36± 0.004	0.34±0.004*
Vitamin E (µg/dl)	0.15 ± 0.003	0.14 ± 0.004*

*p≤0.05 ** p≤0.01 ***p≤ 0.001

Table (4): **Selected serum biochemical parameters in healthy and pneumonic goats ,the results were expressed as mean ± standard error of mean (M ±SE)..**

Parameters	Healthy goats (N=15)	Pneumonic goats (N=15)
Albumin (gm/dl)	3.67 ± 0.08	3.43 ± 0.10 *
ALT (U/L)	15.33 ±0.35	15.96 ± 0.23*
AST (U/L)	46.57 ± 0.64	47.92 ± 0.63*
Creatinine (mg/dl)	0.74 ± 0.01	0.76 ± 0.01 *
BUN (mg/dl)	24.84 ± 0.19	24.90 ± 0.19*

*p≤0.05 ** p≤0.01 ***p≤ 0.001


Conclusions

CONCLUSIONS

- From results obtained in this study and previous researches which conformed that oxidative stress is an phenomena occur due to increase in reactive oxygen species or a deficiency in antioxidant defense mechanisms or system either enzymatic or non enzymatic . This in balance leading to damage in lipid , protein and DNA containing macromolecules of the cells of the body . This supports the view that pneumonia in goat one of diseased conditions resulting in oxidative stress

CONCLUSIONS

Based upon the significant decreased ($p \leq 0.05$)in antioxidant levels(VitC & VitE) and significant increase ($p \leq 0.05$)in enzyme activities (CAT, SOD &GPx).

It is concluded that pneumonia in goat considered as strong oxidative stress and so, periodic assessment of oxidative stress in small ruminant is important with supplementation of proper anti oxidants as supportive treatment in pneumonic and in healthy animals

THANK YOU

