

Dedication

To my father and mother,

To my brothers and sisters

To my husband and sons with best wishes.

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List of contents

No.	Contents	Page
	Introduction	1
	Chapter One	
1	Literature review	3
1.1	Goats.....	3
1.2	Homeostasis.....	3
1.3	Urinary system	4
1.3.1	The Kidneys	4
1.3.2	Ureters	5
1.3.3	The urinary bladder	5
1.3.4	Urethra	5
1.3.5	Functional Anatomy of the kidney	6
1.3.6	Blood and nerve supply	7
1.4	Physiology of the kidneys	7
1.4.1	Urine formation	8
1.4.1.1	Glomerular filtration	8
1.4.1.2	Tubular function	14
1.4.1.3	Glomerulo tubular balance	14
1.5	Assessment of Renal Function by renal clearance	15
1.5.1	Inulin	16
1.5.2	PAH	17
1.5.3	Creatinine	17
1.6	Factors affecting kidney functions	20

1.6.1	Dehydration	20
No.	Contents	Page
1.6.2	Diets.....	21
1.6.3	Pregnancy	22
1.6.4	Lactation	23
1.7	Characteristics of Mammalian Urine	23
1.7.1	Physical properties	23
1.7.1.1	Odor	24
1.7.1.2	Consistency	24
1.7.1.3	Specific gravity	24
1.7.1.4	pH	24
1.7.1.5	Volume	24
1.7.2	Urine chemical composition	25
1.7.3	Abnormal constituents of urine	28
1.8	Micturition	28
Chapter Two		
2	Materials and methods	30
2.1	Housing and feeding	30
2.2	The experimental protocol	30
2.3	Experiments	30
2.3.1	Experiment 1	30
2.3.2	Experiment 2	31
2.3.3	Experiment 3	31
2.3.4	Experiment 4	31
2.4	Urine collection	31

2.5	Blood collection	32
2.6	Urine physical properties.....	32
No.	Contents	Page
2.6.1	Urine volume	32
2.6.2	Colour of the urine.....	32
2.6.3	Urine pH	32
2.6.4	Urine specific gravity	33
2.7	Chemical analysis	33
2.7.1	Urinary chloride	33
2.7.2	Urinary phosphate	33
2.7.3	Sodium and potassium in urine	33
2.7.4	Urinary Magnesium	33
2.7.5	Urinary calcium	34
2.7.6	Total protein in urine	34
2.7.7	Urea in urine	34
2.7.8	Creatinine in urine	34
2.7.9	Uric acid in urine	35
2.7.10	Serum urea concentration	35
2.7.11	Serum creatinine	35
2.7.12	Serum sodium and potassium	35
2.7.13	Serum calcium	36
2.7.14	Serum magnesium	36
2.7.15	Serum inorganic phosphorus	36
2.8	Calculations	36
2.8.1	Endogenous creatinine clearance	36

2.8.2	Excretion rate	37
2.8.3	Urine flow rate	37
2.9	Statistical Analysis	37
No.	Contents	Page
Chapter Three		
3	Results	42
3.1	Experiment I	42
3.1.1	The effect of the time on Urine physical properties.	42
3.1.2	Urinary electrolytes	42
3.1.3	Non-protein nitrogenous compounds	43
3.1.4	Protein excretion	43
3.2	Experiment (2)	43
3.2.1	Effect of dietary protein level on urine physical properties	43
3.2.2	Electrolyte concentration	44
3.2.3	Effect of feeding low protein diet on non-protein nitrogenous compounds	44
3.2.4	Protein excretion	45
3.3	Experiment (3)	45
3.3.1	Effect of lactation on urine physical characteristic	45
3.3.2	Effect of lactation on urine electrolytes	45
3.3.3	Effect of lactation on non-protein nitrogenous compound	46
3.3.4	Effect of lactation on excreted protein	46
3.4	Experiment 4.....	47
3.4.1	Effect of dehydration on some diagnostic urine indices	47

3.4.2	Urine electrolyte concentration	47
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Chapter Four

4	Discussion	65
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No.	Contents	Page
	Conclusion and Recommendation	73
	References	74
	Appendix	82

List of tables

No.	Contents	Page
Table (2-1)	Composition of the experimental feed for experimental animals	38
Table (3-1)	Effect of the time on urine physical properties	48
Table (3-2)	Effect of time on electrolyte concentration of Nubian goat urine	49
Table (3-3)	Effect of time on non-protein nitrogenous compound of Nubian goat urine	50
Table (3-4)	Effect of time on electrolyte total excretory rate of Nubian goat urine	51
Table (3-5)	Effect of time on urine protein diagnostics indices	52
Table (3-6)	Effect of dietary protein level on the physical properties of normal goat urine	53
Table (3-7)	Effect of dietary protein level on urine electrolyte concentration	54
Table (3-8)	Effect of dietary protein level on total excretion (TE) for Nubian goats urine	55
Table (3-9)	Effect of dietary protein level on non-protein nitrogenous compounds	56
Table (3-10)	Effect of dietary protein level in urine protein excretion in Nubian goat	57
Table (3-11)	Effect of lactation on the physical properties of Nubian goat urine	58

Table (3-12)	Effect of lactation on urine electrolyte concentration	59
No.	Contents	Page
Table (3-13)	Effect of lactation on total excretion (TE) for Nubian goats urine	60
Table (3-14)	Effect of lactation on no-protein nitrogenous compounds of Nubian goat urine.	61
Table (3-15)	Effect of lactation on urine protein excretion of Nubian goat	62
Table (3-16)	Effect of dehydration on some diagnostic urine indices of Nubian goat	63
Table (3-17)	Effect of dehydration on urine electrolyte concentration	64

List of figures

No.	Contents	Page
Figure (1)	Urine bag collection, modifying catheter and Sudanese udder bag.....	39
Figure (2)	Urinary catheterization of experimental goat.	40
Figure (3)	Catheterized goats with a urine bag collection kept in the Sudanese udder bag.....	41

Abstract

This study was conducted to investigate the effect of time, low dietary protein level, lactation and dehydration on some urinary indices of renal function in Nubian goats.

Urine physical properties (pH, volume and specific gravity), endogenous creatinine clearance, urea clearance, urine concentration of electrolytes, total protein, non protein nitrogenous compounds and total excretory rate of electrolytes (Na, K, Cl, Ca, Mg, PO_4) and total protein were measured.

Ten mature non pregnant and non lactating Nubian goats with an average age 3 to 4 years weighing about 22.5 kg were used for each experiment. Ten lactating goats were used to study the effect of lactation in addition to the control group of ten non pregnant and non lactating goats.

The animals were fitted with modified catheter using aseptic technique. Urine was collected at eight hours time period over 48 or 96 hours in sterile urine collection bags. Blood samples were collected from jugular vein at the end of each collection period.

The urine pH and volume of the third collection period were significantly higher than that of the other two collection periods. The time did not induce any significant effect on either the excretory rate of the electrolytes, or total protein. The creatinine clearance followed the same trend. Urinary concentration of urea and uric acid were significantly ($P < 0.05$) affected by the time.

The urine physical characteristics did not vary with the dietary protein level. Feeding low dietary protein level was associated with a highly ($P<0.01$) significant decrease in the creatinine clearance, urea clearance and total excretory rate of electrolytes and the total protein.

Neither the urine specific gravity nor the urine pH was affected by lactation. Lactation exerted a significant ($P<0.05$) reduction on the urine volume, creatinine clearance, urea clearance and total excretory rate of electrolytes and total protein.

Dehydration did not affect the urine pH or the urinary concentration of three of the measured electrolytes (K, Cl, and Ca).

The dehydrated goats obtained a significantly ($P<0.05$) higher urinary concentration of some electrolytes (Na, Mg, PO₄), total protein and non protein nitrogenous compounds than the control group.



ملخص الأطروحة

أُحرِيت هذه الواسة لبحث تأثير كل من لؤمن، مسقوي ريو تين الغذاء المنخفض، إوار الحليب و الجفاف علي بعض و شوات البول لوظائف الكلويه لدي الماعز الذبي. الصفات الفزيائية للول (الأس الهيدروجيني، الحجم والكثافة الوعية)، معامل تصفية الكرياتينين الداخلي، معامل تصفية الوريا، التركيز الولي لكل من اليو تين الكلي، الواد النيتروجينية غير اليو تينيه و الشورد.

عشر من الماعز الذبي غير حامل و غير موضعة تولحت أعملها بين 3 و 4 سوات و قون 5. 22 كجم استخدمت لواسة تأثير كل من لؤمن، ريو تين الغذاء المنخفض و الجفاف علي وظيفة الكلي. عشر من الماعز الذبي الوضعة استخدمت لواسة تأثير الإوار علي الأداء لوظيفة الكلي بالإضافة إلي مجموعة التحكم المونة من عشر من الماعز غير حامل و غير موضعة.

جهت الحوانات بقسوة و ليه من البلاستيك و استخدمت تقنيه خاليه من التوث. جمع البول كل ثمانى ساعات لمدة 48 أو 96 ساعة. جمعت عينات الدم مع انتهاء جمع عينات البول.

و جد أن كل من الأس الهيدروجيني و حجم البول لفترة الجمع الثالثة أكثر يفوق معوية من القيم المتحصلة لفتوي الجمع الاختين. لم يحدث لؤمن تأثير علي أي من معدل الإخراج الكلي للشورد أو اليو تين الكلي، و معدل تصفية الكرياتينين الداخلي اتبعت نفس المنحي.

التركيز الولي للوريا و حمض البول تأثرا بلؤمن يفوق معوية.

لم تتفاوت الصفات الفزيائية البول تبعاً لمستوي ريو تين الغذاء المنخفض. التغذية بغذاء منخفض الريو تين صوحت بانخفاض يفوق معزیه في كل من تصفية الكرياتينين ، تصفية اليريا ، معدل الإخراج الكلي لكل من الشوراد و الريو تين الكلي ، لم تتأثر أي من الكثافة الوعية أو الأس الهيدوجيني للبول بإوار الحليب. أحدث إوار الحليب انخفاضا يفوق معزیه علي حجم البول ،تصفية الكرياتينين، تصفية اليريا ومعدل الإخراج الكلي للشوراد والريو تين الكلي . لم يؤثر الجفاف علي الأس الهيدوجيني للبول أو تركيز البول لثلاث من الشوراد (K,Cl,Ca) .

تحصلت الأغنام الموضوعة للجاف علي تركيز وولي اعلي يفوق معزیه عالية للريو تين الكلي، المواد النيتوجينية غير الريو تينية بعض الشوراد (Na,Mg,Po) من مجموعة التحكم .