



Application of different diagnostic laboratory techniques to evaluate the functional status of the rumen in ill-thrift weaned transitional buffalo calves.

Thesis

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Summary

This study was carried out on 25 of weaned buffalo calves in the transitional phase. These animals were collected from different locations of Sohag governorate from butcher markets outside the slaughterhouses.

All these calves were earlier weaned at age of 40 days and suffer from signs of ill-thrift which appear in form of emaciation, weakness, rough hair coat, alopecia and stunting in growth.

These animals are divided into three groups:

Group (A): included 10 buffalo calves at 2 months age.

Group (B): included 10 buffalo calves at 2.5 months age

Group (C): included 5 buffalo calves at 3 months age.

All these calves have been examined clinically before slaughter and blood samples were taken.

Blood samples taken from the different calves groups were analyzed in order to make blood picture, especially Red blood cells, white blood cells count platelets, hemoglobin, packed cell volume, mean corpuscular volume and lymphocyte.

Blood serum was obtained for biochemical analysis of total proteins, albumin, globulins, and albumin globulin ratio and blood glucose by using spectrophotometer and chemical kits.

Ruminal juice was taken for physical properties include: odor, color and consistency, chemical properties include: pH and methylene blue reductase test and microscopically examination of the ruminal protozoa motility.

Ruminal tissue samples were taken from cranial part of ventral ruminal sac for histopathological examination and ruminal papillae measurement including: length, width and epithelium thickening of ruminal papillae.

The obtained result showed that:

Blood glucose level was decreased with advancing age, and lowest was noticed at 3 months compared with level at 2 month.

There was significant difference in total proteins, albumin and globulins:

A gradual increase in total serum proteins value, serum albumin and serum globulins were observed with an increase of age .while no significant difference in A/G ratio was noticed.

Also there were significant increase in RBCs count in calves at 3 months than calves at 2 month. While no significant difference in RBCs in calves at 3 months and 2.5 month.

Total leucocytic count value showed significant increase in calves at 2 month when compared its value at the calves at 3 months. While no significant difference in WBCs count value between calves at 2 month and 2.5 months.

Also there were no significant difference in platelets, hemoglobin, lymphocyte, neutrophil, monocyte and mean corpuscular volume.

There were significant increase in hematocrit value between calves at 2 month and 2.5 month, and between calves at 2 month and 3 months.

The obtained result about ruminal papillae measurement showed that, there are significant increase in ruminal papillae length with increased in age and with concentrated and dry ration.

There were significant increase in ruminal papillae width in calves at 2 month than 3 months (ruminal papillae width are wider in calves at 2 month than calves at 3 months) .width decreased with age increased.

Ruminal epithelium thickening in calves at 2 month are thicker than it in calve at 3 moths.

The physical and chemical analysis of ruminal juice reveled that:

The physical properties: color of ruminal juice varied from yellowish brown to greenish brown with aromatic odor and viscous in consistency.

The chemical properties of ruminal juice: pH from 5.5 to 5.7 and methylene blue reduction test within 3 min in almost of examined cases.

Microscopic examination indicate that small and large protozoa varied from motile and crowded to sluggish and non-crowded.

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ARABIC SUMMARY

الملخص العربى

اجريت هذه الدراسة على عدد 25 من العجول الجاموس المفطومة حديثا وهى في المرحلة الانتقالية. تم تجميع هذه الحالات من اماكن مختلفة من محافظة سوهاج من اسواق الذبح خارج المجازر. جميع هذه الحيوانات فطمت مبكرا عند عمر 40 يوم وظهرت عليها علامات النحافة من ضعف النمو وسقوط وتخشن الشعر وظهور العظم.

قسمت هذه الحيوانات الى 3 مجموعات:

المجموعة الاولى: تضم 10 عجول جاموس عند عمر شهرين.

المجموعة الثانية: تضم 10 عجول جاموس عند عمر شهرين ونصف.

المجموعة الثالثة: تضم 5 عجول جاموس عند عمر 3 شهور.

تم فحص العجول إكلينيكيًا قبل عملية الذبح وتم اخذ عينات الدم للتحاليل المعملية.

وقد تم تحليل عينات الدم المأخوذة من مجموعات العجول المختلفة لتحليل صورة دم كاملة واشتملت على العدد الكلى لكرات الدم الحمراء والبيضاء والصفائح الدموية والهيموجلوبين و الخلايا الليمفاوية والخلايا المحببة ومتوسط حجم خلية الدم ومستوى الهيماتوكريت.

وقد تم فصل مصل الدم وتقدير مستويات البروتين الكلى والألبومين والجلوبيولين ونسبة الألبومين الى الجلوبيولين وسكر الدم باستخدام جهاز الاسبيكتروفوتومتر بواسطة المواد الكيميائية.

وقد تم اخذ عينات من عصارة الكرش للتحليل الخواص الفيزيائية وشملت على الرائحة واللون والقوام , والخواص الكيميائية وشملت على الاس الهيدروجيني واختبار اختزال الميثيلين. وكذلك الفحص الميكروسكوبي لسائل الكرش.

وقد تم اخذ عينات من جدار الكرش للفحص الهستولوجى وقياس طول وعرض وسمك هدييات الكرش.

وبتحليل النتائج اتضح الاتى:

1- مستوى سكر الدم قل مع تقدم العجول في العمر: حيث كان مستوى سكر الدم في

العجول الجاموس عمر شهرين اعلى من مستواه في 3 شهور.

- 1- وجد تغير معنوي في مستوى البروتين الكلى والألبومين والجلوبيولين:
مستوى البروتين الكلى يزداد مع زيادة العمر.
مستوى الألبومين يزداد مع زيادة العمر. (في الحالات المرضية).
مستوى الجلوبيولين يزداد مع زيادة العمر.
عدم وجود تغير معنوي في نسبة الألبومين الى الجلوبيولين.
- 2- زيادة معنوية في عدد كرات الدم الحمراء في عجول الجاموس عند عمر 3 شهور عن
عجول الجاموس عمر شهرين. مع عدم وجود تغير معنوي في عدد كرات الدم الحمراء
في عجول الجاموس عند عمر 3 شهور وشهرين ونصف.
- 3- وجود زيادة معنوية في عدد كرات الدم البيضاء بين مجموعة العجول الجاموس عند
عمر شهرين و3 شهور. وبين مجموعة العجول عند عمر شهرين ونصف و3 شهور .
وعدم وجود تغير معنوي بين مجموعة عجول عن عمر شهرين وشهرين ونصف.
- 4- عدم وجود تغير معنوي في عدد الصفائح الدموية والهيموجلوبين والخلايا الليمفاوية
والخلايا المحببة ومتوسط حجم كرات الدم.
- 5- وجود زيادة معنوية في مستوى الهيماتوكريت بين مجموعة العجول الجاموس عند عمر
شهرين وشهرين ونصف. وبين مجموعة العجول شهرين و3 شهور.
- 6- اظهرت النتائج وجود تغيرات معنوية في قياسات هدييات الكرش:
- زيادة معنوية في طول هدييات الكرش مع زيادة العمر.
- زيادة معنوية في عرض هدييات الكرش في مجموعة العجول عند عمر شهرين عن
عمر 3 شهور (عرض هدييات الكرش تقل مع زيادة العمر). حيث كانت عريضة في
الاعمار الصغيرة عن العمر الكبير في المرحلة الانتقالية للنمو.
- زيادة معنوية في سمك هدييات الكرش في العمر الصغير عن العمر الاكبر(سمك
هدييات الكرش في العمر شهرين اكبر من 3 شهور).
- 7- من خلال فحص سائل الكرش تبين الاتي:
- الخواص الفيزيائية: اللون كان ما بين بني مصفر الى بني مخضر والرائحة ارومة
خاصة اما القوام فكان لزجا في اغلب الحالات.
-الخواص الكيميائية: تركيز ايون الهيدروجين يتراوح ما بين 5.5 الى 5.7 واختبار
اختزال الميثيلين في خلال 3 دقائق في اغلب الحالات. –
من خلال الفحص الميكروسكوبي لسائل الكرش وجد ان يحتوى على بروتوزا كبيرة
وصغيرة الحجم متحركة وشديدة الحركة.



تطبيقات الطرق المعملية التشخيصية المختلفة لتقييم وظائف الكرش لظاهرة النحافة في عجول

الفطام الجاموس الانتقالية

رسالة مقدمة من

ط.ب./ شنودة صادق جاد

بكالوريوس العلوم الطبية البيطرية (2008)

كلية الطب البيطري-جامعة أسيوط

للحصول على

درجة الماجستير في العلوم الطبية البيطرية

(تشخيص معلمي إكلينيكي)

كلية الطب البيطري-جامعة أسيوط

تحت إشراف

أ.د./ على السباعي حسين

أستاذ الأمراض الباطنة والتشخيص المعلمي والإكلينيكي

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د./ نهال مكرم عوض

باحث بمعهد بحوث الصحة الحيوانية (فرع سوهاج)

قسم طب الحيوان

كلية الطب البيطري -جامعة أسيوط

2018م