

Declaration

Here it is to declare that this research work entitled: (The Efficacy of Sulphadimidine, Gentamicin, Oxytetracycline and their combination in Nubian goats experimentally infected with *Trypanosoma evansi* (isolated from Eastern Sudan) was carried out in the Department of Parasitology, College of Veterinary Medicine, Sudan University of Science and Technology under the supervision of Prof. Osman Saad Ali Mohamed.

Dedication

To My parents, My friends, My colleagues Atif Abushieba and Maluit Bony Deng for their unlimited appreciations.

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Abstract:

The objective of the study was to evaluate the efficacy of sulphadimidine, gentamicin, oxytetracycline and their combination in Nubian goats experimentally infected with *Trypanosoma evansi*. Eleven groups (1-11) were used each of three. Sulphadimidine was given at single i/m dose of (100, 200 and 400 mg/kg). Gentamicin were given at (2, 4 and 8 mg/kg), while oxytetracycline long acting was given at (20 mg/kg). Combinations of sulphadimidine and gentamicin at (200 + 4) and (400 + 8) mg/kg respectively, combinations of sulphadimidine and oxytetracycline (200 + 20) and gentamicin and oxytetracycline (4 + 20) mg/kg respectively were also tested. Sulphadimidine, gentamicin and oxytetracycline at single doses of (200, 400), (4, 8) and 20 mg/kg respectively were succeeded to eliminate the parasite from the peripheral blood at (4), (8 and 7) and (4) weeks post infection respectively. Doses of sulphadimidine and gentamicin at 100 and 2 mg/kg respectively failed to eliminate the parasite from the peripheral blood and the animals were slaughtered at weeks 4 post infection in moribund condition. No significant changes were observed in clinical and haematological parameters of the tested groups. Significant decrease ($p \leq 0.05$) in the serum glucose concentration and significant increase ($p \leq 0.05$) in the serum urea concentration and in the activity of GOT of the tested groups.

المخلص :

هدفت هذه الدراسة لتقييم فاعلية عقار سلفادايدين وجنتاميسين و أوكسيتيتراسيكلين ومخاليطهم في الماعز النوبي المصاب تجريبياً بالطفيل تريباناسوما إيبانسي أُستخدمت إحدى عشر مجموعة يتكون كل منها من ثلاثة ماعز حقن كل ماعز في كل مجموعة في العضل مرة واحدة بعقار سلفادايدين بمعدل (100 ، 200 ، 400 ملغ/ك.م) والجنتومايسين (2 ، 4 ، 8 ملغ/ك.م) و أوكسيتيتراسيكلين طويل الأمد بمعدل (20 ملغ/ك.م) على التوالي. كما حقنت أربعة مجموعات منهم بمخاليط سلفادايدين + الجنتاميسين (200 + 4 ملغ/ك.م ، 400 + 8 ملغ/ك.م) ومخلوط سلفادايدين + أوكسيتيتراسيكلين (4 + 20 ملغ/ك.م) على التوالي . نجح عقار سلفادايدين والجنتاميسين والأوكس تتراسايكلين في تنظيف الدم الطرفي من الطفيل في الجرعات (200 ، 400 /4 ، 8 و 20 ملغ/ك.م) على التوالي في الإِسبوع (4 ، 8/4 ، 4/7) بعد الإصابة على التوالي . فشلت الجرعات من عقار سلفادايدين والجنتاميسين (100 و 2 ملغ/ك.م) على التوالي في تنظيف الدم الطرفي من الطفيل، وذبحت الحيوانات في الإِسبوع الرابع بعد الإصابة على التوالي. نجحت مخاليط سلفادايدين والجنتاميسين، ومخاليط سلفادايدين والأوكسيتيتراسيكلين، والجنتاميسين ولأوكسيتيتراسيكلين في تنظيف الدم عند الإِسبوع (8 و 4 /7 و 4) بعد الإصابة وحتى نهاية التجربة . لا توجد فروقات معنوية في المقاييس الإكلينيكية ومقاييس الدم . توجد فروقات معنوية منخفضة ($p \leq 0.05$) في تركيز معدل السكر وزيادات ($p \leq 0.05$) في تركيز مصل اليوريا ونشاط إنزيم GOT في الحيوانات المختبرة .

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LIST OF ABBREVIATIONS

AST	Aspartate aminotransferase.....
HAT	Human African Trypanosomiasis.....
WHO	World Health Organization.....
DNA	Deoxynucleid acid.....
HCT	haematocrit centrifugation technique
BCM	buffy coat method
MAEC	miniature anion-exchange centrifugation method.....
SCM	silicone centrifugation method
LCM	lysis centrifugation method.....
ELISA	enzyme-linked immunosorbent assay.....
PCR	polymerase chain reactions
NAPRI	National Animal Production Research Institute.....
THFA	tetrahydrofolic acid.....
No	Number.....
RNA	Ribosomal Nucleid Acid.....
SD	Standard deviation.....

PABA	Para-aminobenzoic acid.....
DHFR	dihydrofolate reductase
CNS	Central nervous system.....
Oxy-LA	Oxytetracycline Long Acting.....
PSG	phosphate buffered saline with glucose.....
EDTA	ethylene diamine tetraacetic acid.....
L.N	liquid nitrogen.....
Hb	Haemoglobin.....
RBCs	Red blood cells count.....
WBCs	White blood cells count.....
PCV	Packed cell volume.....
MCV	Mean corpuscular volume.....
MCH	Mean corpuscular haemoglobin.....
MCHC	Mean corpuscular haemoglobin concentration.....
BCG	Bromocresol Green complex.....
GOT	Serum Glutamate Oxaloacetate Transaminase.....
MDH	Malate dehydrogenase.....

b.w	Body weight.....
SE	Standard errors.....
DHF	Dihydrofolic.....
THF	Tetrahydrofolate.....
GFR	Glomerular Filtration rate.....
UN	urea nitrogen.....
CT	Creatinine.....