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Failure of quinapyraminesulphate in the treatment of rats experimentally infected with *Trypanosoma evansi*

فشل عقار كبريتات الكوينابرامين في علاج فئران تجارب اصيبت تجريبا بطفيل التريبانسوما ايفانساي

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A Thesis submitted in partial fulfilment of the requirement ofBachelor Degree in Veterinary Medicine (B.V.M)

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October 2018

DEDICATIONS

tothose who seek and share to enjoy the comfort and joy that led us to the path of success and taught us to rise the ladder of life with wisdom and patience to our dear

Fathers

to the spring that does not tire of giving, whoever have made our happiness with woven threads from their heart to our dear

Mothers

As well as to our brothers and sisters

to the ones who bring the best of us, with whom we have travelled together, we are moving together towards success and creativity to our friends

to our supervisor **Dr.EhabMossaad***without him this work would not be completed.*

tothose whocould not afford an education and to the souls of the children of* almanasir *with our sincere prayers.

ACKNOWLEDGEMENTS

We would like to express our deep and sincere gratitude to our grand supervisor **Dr.EhabMossaad** for his excellent guidance and support throughout the study and for his precious ideas in the study design, generous assistance without which it would not have been possible to accomplish this project and for his valuable corrections, suggestions and comments during manuscript preparation.

We also offer grand gratitude to **Dr.SomiaAwadAlkareem**for her priceless help, support and encouragement.

We extend our thanks to**Professor Hamid Suliman**from University of Khartoum who provided us with the experimental animals and for his technical support.

We also convey thanks to **Dr**.**RawanSatti**for her technical support.

Oursincere appreciation goes to the teaching staff of the College of Veterinary Medicine,Sudan University of Science and Technology. This study was financially supported by the Ministry of Higher Education and Scientific Research, Republic of Sudan (Grant No. SRI-VS-2015-71933).

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ABSTRACT

This study was conducted in response to recurring reports from Eastern Sudanof camel trypanosomosis that can no longer be treated by currently available trypanocidal drugs. We tried to assess the susceptibility of*Trypanosoma evansi* isolated in Kassala State, eastern Sudan in December 2016. Two groups of Wistar albinorats (five rats/ group) experimentally infected with *T. evansi* were treated at day four post infection with either quinapyraminesulphateor diminazenediaceturate subcutaneously. A group of rats was left infected-non-treated while another group was left non-infected-non-treated. All groups were monitored daily for parasitemia using wet blood films up to day 18. We found that diminazenediaceturate has successfully treated the infected rats and completely cleared the parasitemia. In contrast, quinapyraminesulphate failed to cure the infected rats.

PCV at day 18 was also assessed to evaluate the level of anemia in all groups. The group treated with diminazenediaceturate showed normal PCV comparable to that of non-infected group confirming the complete recovery of rats. While the group treated withquinapyramineSulphate showed significantly lower PCV comparable to the infected-non-treated group.

It is concluded that the failure of treatment of infected rats withquinapyraminesulphatethis might represent an alert to the veterinary

authorities in the country reflects that camels treated with the drug may not cure. Further studies are urgently needed to investigate whether the failure of treatment is due to the emergence of possible drug resistance.

Keywords: Cameldiminazenediaceturate, Eastern Sudan, quinapyramineSulphate, Rats, Treatment, *Trypanosoma evansi*

مـلخـــص الاطـروحـة

أجريت هذه الدراسة إستجابة للتقارير المتكررة بوجود حالات إصابة بداء التربانسوما والتي لم تستجب للعلاج بالعقاقير المتوفرة في الاسواق.أجريتالدراسة بحقن ثلاث مجموعات من فئران التجارب (5فئران/مجموعة) بطفيل *T. evansi*والذي تم عزلهمن إبل مصابة فيولاية كسلا عام 2016م. المجموعة الأولى تم حقنها تحت الجلد بعقارdiminazenediaceturateأما المجموعة الثانية فقد تم حقنها تحت الجلد بعقارquinapyraminesulphateتم حقن العقارين في اليوم الرابع بعد العدوى المختبرية.تركت مجموعة تم عدوتها مختبريا دون علاج.ومجموعة رابعة دون عدوى ودون معالجة عقارية كمجموعة قياسية.

المجموعة التي تم حقنها بعقارdiminazenediaceturate تم شفاؤها بالكامل وأوضحت صورة مكداس الدم كمؤشر للأنيميا نسبة تقارن بنسبة مكداس الدم في المجموعة القياسية.بينما لم تتم الإستجابة للعلاج في المجموعة التي تم حقنها بعقار الquinapyraminesulphate والتي أوضحت صورة مكداس الدم نسبة تماثل تلك التي تم تسجيلها في المجموعة التي لم تتلقى أي معالجة عقارية .

النتائج التي تم الحصول عليها تشير الي فشل عقارال quinapyraminesulphateفي علاج داء التربانسوما مختبرياً في فئران التجارب الأمر الذي يعتبر إنذار للسلطات البيطرية لتوخي الحذر فيما يبدو كأنه بداية لنشوء مقاومة الطفيل لعقار الquinapyraminesulphate.