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Abstract

The study was conducted to investigate the occurrence of bovine mastitis in HilatKuku, Khartoum, to isolate the bacteria responsible for causing the disease and to determine the antimicrobial susceptibility to the related bacteria. Fifty samples of mastitis milk from fifty dairy cows were collected and transported to Microbiology Laboratory of The College of Veterinary Medicine - Sudan University of Science Technology. Isolation and identification of the bacteria from the collected mastitic milk was undertaken. The results revealed high prevalence of *Staphylococcus aureus* 48% followed by *Streptococcus agalactiae* 28%, *Proteus spp.* 12%, *Starphylococcus hyicus* 8% and *Streptococcus dysgalactiae* 4%. Three types of inflammation were detected, acute mastitis with high prevalence (66%) followed by chronic mastitis (32%) and gangrenous mastitis (2%). *Staphylococcus aureus* was found to infect one quarter causing chronic mastitis and sometimes acute mastitis. *Starphylococcus hyicus* was found to infect one quarter causing chronic and acute mastitis. *Streptococcus agalactiae* was found to infect one quarter causing acute and chronic mastitis. *Streptococcus dysgalactiae* was found to infect more than two quarters causing acute mastitis. While *Proteus spp.* involved the four quarters causing mainly acute mastitis. The effective antibiotics used during this study against most of the isolated bacteria were Gentamycin, Amikacin, Chloramphenicol, Ofloxacin and Ciprofloxacin. Some isolates showed resistant to some antibiotics which were Penicillin, Ampicillin, Cefotaxime, Cloxacillin and Gatifloxacin.

Histopathological changes of the examined parenchymal tissue showed parenchymal damage and formation of abscesses. Seven samples from the ten examined parenchymal tissues samples showed necrosis of the mammary gland. These were mostly caused by *Staphylococcus aureus* causing chronic mastitis. Two samples showed hemorrhagic interstitial tissue mainly caused by *E. coli* and *Streptococcus spp.* causing acute mastitis. Only one sample showed necrotic alveoli in the .parenchymal tissue due to gangrenous type of inflammation

ملخص الاطروحة

أجريت هذه الدراسة لعزل البكتريا المسببة لالتهاب الضرع في حلة كوكو . ولاية

الخرطوم ولمعرفة المضادات الحيوية المناسبة لتلك البكتيريا .

جمعت 50 عينة من 50 بقرة مصابة بالتهاب الضرع حيث تم تحليلها بمعمل الاحياء الدقيقة

- كلية الطب البيطري جامعة السودان للعلوم والتكنولوجيا .

اوضحت. النتائج وجود البكتيريا. موجبة الجرام *staphylococcus aureus* بنسبة

48 % - *streptococcus agalactiae* بنسبة 28 % *staphylococcus*

hyicus بنسبة 8 % - *streptococcus dysgalactiae* بنسبة 4 % ، ووجود

البكتيريا العصوية سالبة الجرام. *proteus spp* بنسبة 12 % .

تم تحديد ثلاثة انواع من- التهاب- الضرع- ، التهاب- الضرع- الحاد بنسبة 66 % - ،

التهاب- الضرع- المزمن- بنسبة 32 % و التهاب- الضرع- الغانغريني- بنسبة 2 % .

اوضحت الدراسة ان البكتيريا العنقودية *staphylococci* قد اصابت ربع واحد من

الضرع- مسببة التهاب- الضرع- الحاد والمزمن- بينما اصابته *streptococci*

dysgalactiae ربعين من الضرع مسببة التهاب الضرع الحاد واصابت البكتيريا سالبة

الجرام *proteus spp* كل الضرع مسببة التهاب الضرع الحاد .

تم اجراء اختبار الحساسية للبكتيريا المعزولة حيث اظهرت معظم البكتيريا حساسية للعقارات ، Chloramphenicol ، Amikacin ، Gentamycin ، Ciprofloxacin و Oflaxacin بينما اظهرت البكتيريا مقاومة للعقارات . Gatifloxacin و Penicillin ، Ampicillin ، Cefotaxime ، Cloxacillin . تم فحص 10 عينات من- انسجة- الضرع- اظهرت- تغيير- في- متن- الانسجة- وتكوين- خراجات- .

أظهرت- النتائج- ان- 7 من- العينات- بها- تاجر- في- الغدد- اللبنية- مسببة- التهاب- الضرع- المزمن- وتكون- غالبا- بسبب- *Staphylococcus aureus* - بينما- 2 من- العينات- اظهرت- نزف- في- الانسجة- البينية- وتكون- غالبا- بسبب- *E. coli* و *Streptococcus spp* محدثة- التهاب- الضرع- الحاد - اظهرت- عينة- واحدة- تاجر- في- الاسناخ- اللبنية- على- متن- انسجة- الضرع- مسببة- التهاب- الضرع- الغانغريني- .