

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

Sudan University of Science and Technology

College of Graduate Studies

Prevalence and Risk Factors of Ovine Hydatidosis in

Elgeniena, West Darfur State, Sudan

**الانتشار وعوامل الخطر لمرض الأکیاس العدارية في الضأن في مدينة
الجنينة-ولاية غرب دارفور - السودان**

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By

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الآية

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

(وَلَوْ لَا فَضْلُ اللّٰهِ عَلَیْكَ وَرَحْمَتُهُ لَهَمَّتْ طَائِفَةٌ مِنْهُمْ أَنْ یُضِلُّوكَ
وَمَا یُضِلُّونَ إِلَّا أَنْفُسَهُمْ وَمَا یُضُرُّونَكَ مِنْ شَیْءٍ وَأَنْزَلَ اللّٰهُ
عَلَیْكَ الْكِتَابَ وَالْحِكْمَةَ وَعَلَّمَكَ مَا لَمْ تَكُنْ تَعْلَمُ وَكَانَ فَضْلُ
اللّٰهِ عَلَیْكَ عَظِیْمًا)

Dedication

- **To my mother**
- **To my brothers and sisters**
- **To my husband (Jamal Ibrahim)**

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ABSTRACT

An abattoir survey was conducted on 192 sheep slaughtered at Al-Jamarek abattoir and Alriad abattoir, West Darfur State, Sudan, during the period September to December 2014. The objective of the survey was to estimate the prevalence of hydatid cysts in sheep and to investigate the risk factors associated with the disease. Routine meat inspection procedures were employed to detect the presence of hydatid cysts in visceral organs (liver, lung, heart and peritoneum).

The sheep selected for this study originated from six localities: Elgeniena, Kerenik, Serba, Jabal Moon, Baida, and Foro Baranga. The overall prevalence was 8.9%. The prevalence of hydatid cysts infection according to abattoir was 10% in Alriad abattoir and 7.6% in Aljamarek abattoir. The prevalence of hydatid cysts infection according to age of sheep was 4.25% in young animals and 12.1% in old animals. Regarding distribution by sex, the prevalence of hydatid cysts was 8.7% in male and 9.3% in female sheep. Regarding distribution by breed, the prevalence of hydatidosis was 12.5% in Hamary breed and 8.1 in Sahrawi breed. Regarding distribution by body condition, the prevalence of hydatidosis was 10.4% in sheep with good body condition and

2.6% in sheep with poor body condition. The distribution of the hydatid cysts according to the area (source) of sheep was (15%) in Elgeniena, (13.5%) in Foro Baranga, (9.3%) in Baida, (8.5%) in Kereinik, (2.8%) in Serba and (0.0%) in Jabal Moon. Regarding distribution by presence of concurrent abnormality, the prevalence of hydatidosis was 33.3% in anemic sheep, 11.8% in sheep visceral hemorrhages and 8.1% in animals that had no concurrent abnormality.

The results showed that age is significantly associated with hydatidosis (p- value =0.02).

The current study showed that the liver was the most infected organ (14 cysts), while two cysts were found in both liver and lungs, and one cyst was found in the lung. No cyst was found in the thigh, heart or peritoneum. Microscopic examination of the 17 cysts (found in 17 affected animals) revealed that, 9 cysts were sterile, 5 cysts were fertile and 3cysts were calcified.

ملخص البحث

أجرى البحث على 192 حيوان مذبوحاً في مسلخي الرياض والجمارك بمدينة الجنيينة، ولاية غرب دارفور، السودان . خلال الفترة من سبتمبر إلى ديسمبر 2014، وكان الهدف من الدراسة هو تقدير معدل انتشار مرض الأكياس العدارية في الضأن والتحقق من عوامل الخطر المرتبطة بهذا المرض. أجرى التفتيش الروتيني للحوم للكشف عن وجود الأكياس العدارية في الأحشاء الداخلية والعضلات.

كان مصدر الماشية المختارة من ست محليات في ولاية غرب دارفور وهي محلية الجنيينة، محلية كرينك , سربا, جبل مون, بيضة ومحلية فوربرنقا . كان معدل انتشار المرض في كل الحيوانات 8.9 % . وكان معدل انتشار عدوى الأكياس العدارية وفقاً للمسالخ 10% في مسلخ الرياض و 7.6 % في مسلخ الجمارك. معدل انتشار الاكياس العدارية وفقاً لعمر الحيوان هو 4.25% في الحيوانات الصغيرة و 12.1% في الحيوانات الكبيرة. وكان معدل انتشار الأكياس العدارية حسب الجنس هو 8.7 % في الذكور و 9.3% في الاناث. وكان معدل انتشار الأكياس العدارية حسب سلالة الضأن هو 12.5 % في الضأن الحمري و 8.1 % في الضأن الصحراوي. أما بالنسبة لحالة الجسم فكان معدل انتشار المرض هو 10.4 % في حالة الجسم الجيد 2.6% في حالة الجسم الهزيل. وكان معدل انتشار الأكياس وفقاً للمناطق التي جاءت منها الحيوانات: 15 % من محلية الجنيينة، 13.5 % في فوربرنقا، 9.3% من بيضة، 8.5% من كرينك، و 2.8% من سربا ولم توجد اي إصابة في محلية جبل مون, كذلك معدل انتشار الاكياس العدارية وفقاً لوجود شذونيات اخري كانت 33.3% في الحيوانات المصابة

بالأنيميا, و 11.8% في الحيوانات المصابة بنزف في الاعضاء الحشوية و 8.1 % في الحيوانات التي لم توجد فيها شذوذيات اخرى.

وجد ان هناك ارتباط بين مرض الاكياس العدارية وعمر الحيوان (قيمة P =0.02).

اظهرت هذه الدراسة ان الكبد هو اكثر الاعضاء اصابة بالأكياس العدارية (14 كيسة عدارية) في الكبد فقط, واثنين في الكبد والرئة معا وواحدة في الرئة فقط.

وكشف الفحص المجهرى لعدد 17 كيسة عداريه ان من بينها 9 كيسة عقيمة, و 5 كيسة خصبة و 3 اكياس متكلسة.