

Prevalence of hydatid cysts infesting sheep in Jabal Al Akhdar- LibyaAhmad M. Ekhnefer¹; Mohammed Fathy², Abdel- Aal. Mansur; Yehia¹, Abdel- Moneim, Osman³

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Abstract: Hydatid cyst Is one of the oldest diseases common and most complex to date, since it is a simple time, and classified as a serious again, and this depending on the location the cyst that was in the brain or heart classified as disease-written and malicious, and vice versa if in the abdominal cavity or under the skin. During the period of study (January 2010 – December 2010) 3650 sheep (1825 local and 1825 imported) were examined. A total 744(483 local and 261 imported) apparently infected carcass. The results illustrated that the percentage of infection in Local higher than the imported sheep were found 26.465% and 14.301%, respectively, the main reason is that the home's main sheep imported is Australia, but there are common features between the incidence in each of the sheep, local and imported, which is that infected females higher than males, the incidence of infection by age increases with increasing age, and the infection of liver higher than double infection, and double higher than of the lung infection, the lung higher than other infections. With the disparity in the prevalence of the disease among local and imported sheep there are constant features of the disease among sheep that are affected by sex and age. As well as favorites of the disease sites within the host, it is remarkable liver infection, that more than organs.

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1. Introduction

Hydatid cysts are one of the diseases are widespread and common to man and animal, has several names are hydatid disease, hydatosis, hydatid cysts, unicystic, *Echinococcus*, unilocular hydatid disease. Speciation in the genus *Echinococcus* has been complicated by attempts to assign species, subspecies status or the different strains of the parasite. only 4 species of the genus *Echinococcus* are accepted at present time (Ali, 2005). Hydatid cysts are caused by infestation with the parasite *Echinococcus*. This parasite is found worldwide. The adult tapeworm lives in the digestive tract of carnivores, such as dogs and wolves. Eggs are released into the stool and inadvertently ingested by the intermediate hosts, such as sheep, cattle and humans etc. The egg larvae invade the bowel wall and mesenteric vessels of the intermediate host, allowing circulation to the liver or lungs. In the liver or lungs or both, the larvae grow and become encysted. The hydatid cyst develops an outer layer of inflammatory tissues and inner germinal membrane that produces daughter cysts. When carnivores ingest the liver of the intermediate host, the scolices of the daughter cysts are released in the small intestines and grow into adult worms, thus completing the life cycle of worm (Hegglin *et al.*; 2007).

The parasite is generally classified as follows:

- Phylum :Platyhelminthes

- Class : Cestoda

-Subclass : Eucestoda

- Order : Cyclobhyllidea

- Family : Taeniidae

- Genus : *Echinococcus*,

and the 4 known spp. are *E. granulosus*, *E. oligarthus*., *E. vogeli*, *E. multiocularis*, (Jenkins *et al.*; 2005; Xiao *et al.*, 2006). Studies so far are a few that were not non-existent on this disease in Libya, especially in the area of Jabal Al Akhdar (Akhnefer, 2006), we will attempt to determine the prevalence of parasite.

2. Materials and Method

The study area: -

Libya is from of the Arab Maghreb countries, located in the continent of Africa, bordered to the east and Arab Republic of Egypt and Sudan the West, the Republics of Tunisia and Algeria, and Southern Niger and Chad. Overlooking the Mediterranean beach and a length of about 2000 meters. Libya covers an area of approximately two million square kilometers. Jabel Al-Akhdar Mountains (860 meters above sea level), highest coastal regions (Figure 1). We have chosen Jabal Al Akhdar area because it is a pastoral, agricultural, raw. It was not being Particularly accurate studies on this parasite. (A. C.S. A. D,1979).

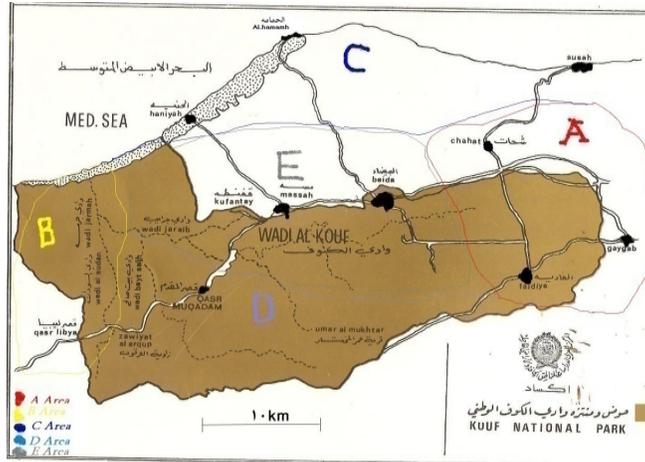


Figure (1): A Map showing the study area of the (Jabel Al-Akhdar).

Examination of sheep:-

During the period of study (January 2010 – December 2010) 3650 sheep(1825 local and 1825imported) were examined (Figures 2,3),where some internal organs were dissected away and hydatid cysts were isolated .The examined organs were liver -

lungs (Figure 4)- brootyonic cavity- spleen- kidney – heart- lipid membrane surrounding internal organs – internal and external Muscle , and to identify sex , age and local – imported. Determining the age of the sheep through the teeth (sheep 101 .info, 2009).



Figure (2): A Photograph showing local sheep.

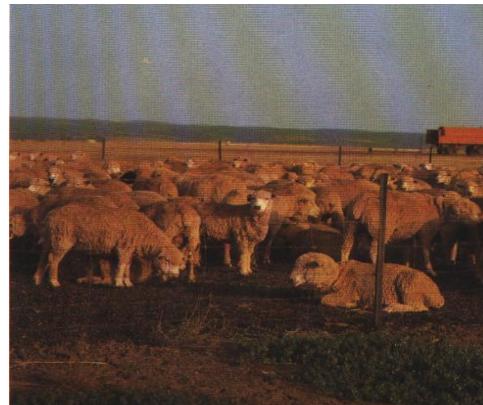


Figure (3) : A Photograph showing imported sheep



Figure (4): A Photograph showing another of the lung, Liver infected hydatid cysts.

3.Result

Prevalence of infection in the intermediate hosts (sheep):-

744(483 local and 261 imported) apparently infected carcass . The total infection rate of sheep brought to the slaughterhouse, in Bieda City, Lybia was found to be 20.383%. While, the infection rates of local sheep compared to the imported sheep were found to be 26.465% and 14.301%, respectively (Figure 5). As for the incidence according to sex were 7.835 in males and 12.547 in females, respectively in local and imported sheep together, while in males and females local and imported both alone were 10.575 ,5.095% ,in males, 15.890, 9.205 % in females , respectively (Figure 6). As for infection rates according age were Increases with increasing age in both local and imported sheep (Figure 7). In terms of infection rates according organs were The highest in the liver of the injury double (liver-lung), in lung is higher than other organs (Figure 8). The statistical analysis (ANOVA one way) showed a significant differences at $P > 0.005$. Taking into consideration the irregularity in the location, sex, age, and health status of sheep brought to the slaughterhouse.

The examination of 3650 sacrificed sheep found that the overall prevalence of hydatid cysts was about 20.383%, while the infection percentage among imported and local sheep was found to be 14.301 , 26.456%, respectively. In previous studies, a discrepancy was obvious in the percentage of parasite infection reported by Akhnefer (2006) and Tashani *et al.* (2002) among sheep, goats and cattle. They reported the percentage to be 55.94% (sheep), goats 40% (goats) and 28.57% (cattle) 20% (sheep) 3.4% (goats), and 11% (cattle), for the first and second study respectively.

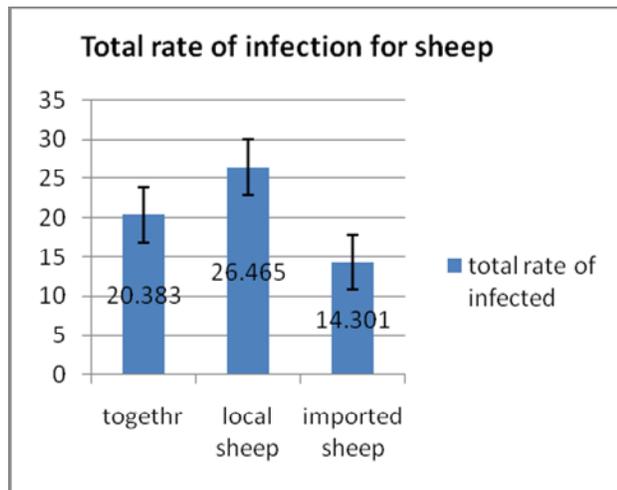


Figure (5) Total rate of infection in sheep

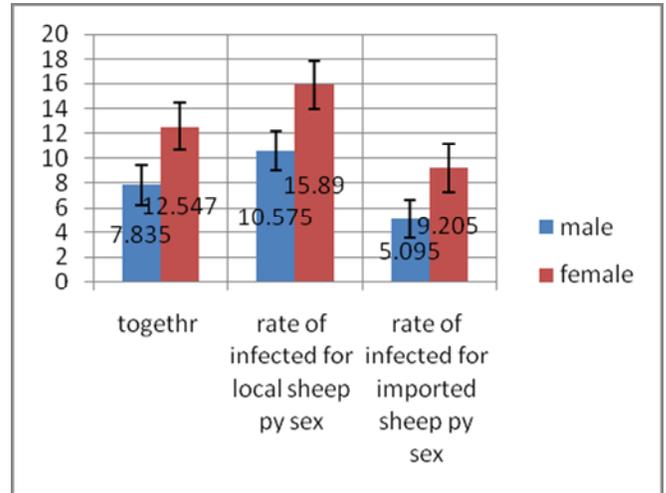


Figure (6): Rate of infection in local and imported sheep according to sex

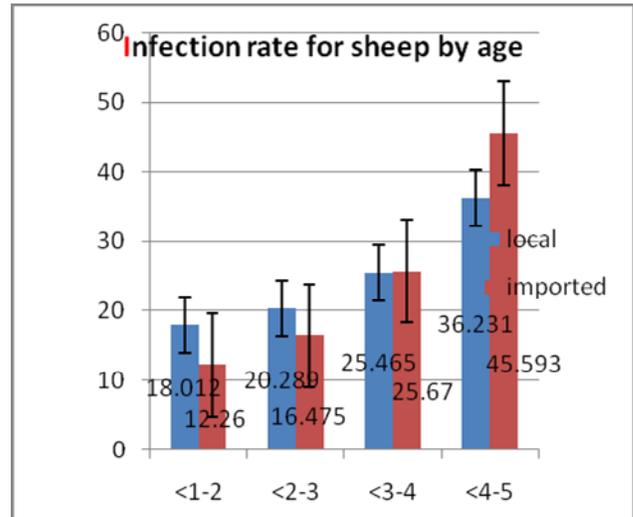


Figure (7): Infection rate of sheep according to age

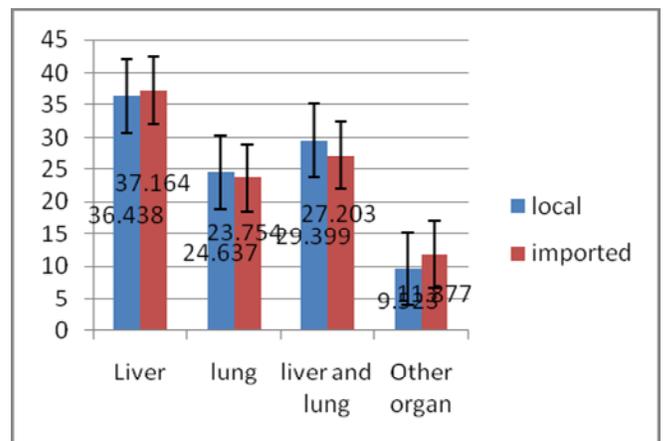


Figure (8) Infection rate in local and imported sheep according to the examined organs